INVENTORY OF PHYSICAL FACILITIES OF ONTARIO UNIVERSITIES

2004-05

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TABLE OF CONTENTS

Committee on Space Standards and Reporting – Membership 1
Physical Inventory Contact Persons 3

SECTION 1: INTRODUCTION

The Development and Use of Building Blocks 7
The COU Committee on Space Standards and Reporting 8
Accountability and Utilization Issues 8
Comments on the 2004 Inventory Report 9
Issues Reviewed by the Committee: 2002 to 2004 17
Some Committee Activities Since 1987 19

SECTION 2: AN OVERVIEW, 1977-78 to 2004-05

Notes 23

Highlights (Tables) 25
Table A Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2004-05 27
Table B Percentage Distribution of Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2004-05 28
Table C Percentage Distribution of Total ACTUAL Space Inventory by COU Formula Space Categories, 1977-78 to 2004-05 29
Table D Total ACTUAL Space Inventory (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2004-05 30
Table E Total GENERATED Space (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2004-05 31
Table F Percentage Distribution of GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 to 2004-05 32
Table G ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification, 1992-93, 1998-99 and 2004-05 33
Table H Ratio of ACTUAL Inventory to GENERATED Space (NASM) by Formula Space Classification, 1977-78 to 2004-05 34
Table I Historical Summary of Statistics, 1986-87 to 2004-05 35

Highlights (Figures) 37
Figure 1: Actual Inventory (NASM) / Generated Space by Functional Areas (with NASM for each functional area), 2004-05 39
Figure 2 Functional Breakdown of Formula Space Usage, 2004-05 40
Figure 3 Percentage Distribution of ACTUAL Space Inventory (NASM) Usage for Formula Areas, 1977-78 to 2004-05 41
Figure 4 % Actual Inventory / Generated Space by Selected Functional Area 1977-78 to 2004-05 42
Figure 5 Total Actual Inventory / Generated Space and Average Age of Buildings 44
Figure 6 Total Formula Area (NASM) / FTE Students, 1977-78 to 2004-05 45
Figure 7 Allocation of NASM per FTE Student by Space Category – Generated and Actual Space, 2004-05 46

SECTION 3: INSTITUTIONAL TABLES (2004-05 survey)

Table 1 Inventory of University Space, November 1, 2004 51

Table 2 Distribution of Actual Inventory by Major Space Category and Institution 52

Table 2A Percent Distribution of Actual Inventory by Major Formula Space Category and Institution 54

Table 2B Percent Distribution of Actual Inventory by Major Space Category and Institution 55

Table 3 Age Profile of Ontario University Space (as of November 1, 2004) 57

Institutional Space Requirements as Measured by COU Space Standards

Table 4 System Summary 59

Table 5 Brock University 61

Table 6 Carleton University 62

Table 7 University of Guelph 63

Table 8 Lakehead University 64

Table 9 Laurentian University 65

Table 10 Algoma University College 66

Table 11 Universitaire de Hearst 67

Table 12 McMaster University 68

Table 13 Nipissing University 69

Table 14 Ontario College of Art & Design 70

Table 15 University of Ontario Institute of Technology 71

Table 16 University of Ottawa 72

Table 17 Queen's University 73

Table 18 Ryerson University 74

Table 19 University of Toronto (St. George campus) 75

Table 20 University of Toronto (Mississauga campus) 76

Table 21 University of Toronto (Scarborough campus) 77

Table 22 Trent University 78

Table 23 University of Waterloo 79

Table 24 University of Western Ontario 80

Table 25 Wilfrid Laurier University 81

Table 26 University of Windsor 82

Table 27 York University (Keele campus) 83

Table 28 York University (Glendon campus) 84

SECTION 4: SUMMARY TABLES

Table 29 Classroom Facilities (1): Generated Space and Inventory 87
Table 30 Class Lab Space (2): Generated Space and Inventory 88
Table 31 Lab - Research Facilities (3): Generated Space and Inventory 89
Table 32 Academic Departmental Office Space and Related Space (4): Generated Space and Inventory 90
Table 32A Graduate Student Office Space (4.3): Generated Space and Inventory 91
Table 33 Administrative Office Space (10): Generated Space and Inventory 92
Table 34 Campus Study Space & Library Facilities (5): Generated Space and Inventory 93
Table 34A Campus Study Space and Student Computer Rooms (5.2, 5.4): Generated Space and Inventory 94
Table 35 Physical Education/Athletics Space (6): Generated Space and Inventory 95
Table 36 Maintenance Space (9): Generated Space and Inventory 96
Table 37 Student and Central Services Space (7-8, 11-15 (excluding 12.3)): Generated Space and Inventory 97
Table 38 Research/Teaching/Academic Support Space (1,2,3,4,5,10): Generated Space and Inventory 98
Table 39 Student Experience / Other Space (6,7,8,9,11,12,13,14,15): Generated Space and Inventory 99
Table 40 Total Space (1-15): Generated Space and Inventory 100

SECTION 5: APPENDICES

Appendix A Space Classification Scheme, Formula and Measures 103
Appendix B COU Space Standards 133
Appendix C List of Input Measures 135
Appendix D Definitions 137
Appendix E Program Classification Scheme 143
Appendix F Calendar of Pertinent Information / Publications 147

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Section 1

INTRODUCTION

INTRODUCTION

This report presents results of the latest in a series of triennial surveys conducted by the Council of Ontario Universities to monitor existing university space inventory and changes in space requirements, as determined by the *COU Building Blocks* space formula.

For those unfamiliar with the terminology used in the report, please see Appendix D: Definitions.

The Development and Use of Building Blocks

The COU space formula and inventory classification system were developed in the 1970s, and have been revised over the years, most recently prior to publication of the 1986-87 survey data in Volume VII of the *Building Blocks* series.

The COU Survey of Physical Facilities takes place during the winter of each third academic year. Data as of November 1 are requested, to coincide with the date for reporting of student enrolment to the Ontario government for operating grants purposes.

In the survey, each institution is asked to report current inventory in 20 space categories, as well as related input measures, such as student enrolment, faculty and staff full-time equivalent positions, laboratory contact hours, and equivalent volumes in the library collection. These input measures are used to calculate the space requirements for the first 15 of the categories, for which quantitative space factors have been determined. The resulting calculations of space entitlement are used, with the data on existing inventory, in various ways. For example, COU uses the survey data to monitor changing space needs and to help make the case made to government about capital funding requirements for the university system as a whole. Individual institutions may compare their existing inventory with space entitlement under the COU formula in proposals for capital funding for new buildings, and the COU formula (sometimes with modifications) is used in institutional planning, such as estimating the needs of a division for different types of space.

Outside agencies and institutions, including universities and government ministries in British Columbia and Saskatchewan, are also users of *Building Blocks*. Consultants planning university facilities in Canada and in other countries frequently request COU space publications. The Canadian University Reciprocal Insurance Exchange (CURIE) uses the COU space categories as a basis for determining the value of university facilities for insurance purposes. And, since 1986-87, the "Ontario Ministry" has allocated funds for repair and renovation according to each institution's entitlement for space in the 15 formula categories.

"Ontario Ministry" refers to the Ontario Ministry responsible for postsecondary education. Until February 1993, it was called Ministry of Colleges and Universities; from February 1993 until July 1999 it was called Ministry of Education and Training, and from July 1999 to the present it is called Ministry of Training, Colleges and Universities.

The COU Committee on Space Standards and Reporting

Co-ordination of the triennial survey, periodic reviews of the space standards, and special studies on the availability and utilization of university space are the responsibility of the Committee (established in 1988). The Committee uses the detailed data collected in the survey to monitor changes in space needs, such as the impact of computing on the laboratory, library and office categories. A list of publications from the Committee and its predecessors is included in Appendix F of this report.

In 1992, the Committee prepared the *COU Building Blocks Users' Guide*, in response to requests for a document that would be more concise, up-to-date and user friendly than the volumes in the *Building Blocks* series, which describe in detail the space classification scheme, the assumptions in the space factors and the analysis used in developing, testing and revising the complete COU space formula.[1] The *Users' Guide* contains instructions for the preparation of institutional responses to the triennial survey, and also explains how the COU space formula can be used to analyze space requirements for purposes other than the survey. The *Users' Guide* is revised every survey cycle.

Accountability and Utilization Issues

Explaining how university space is being used is an ongoing responsibility of the Committee. With increasing emphasis on accountability, universities are expected to ensure that their use of resources, including physical facilities, is efficient and that appropriate information on utilization is available to government and the wider public. The space factors used in *Building Blocks* contain implicit utilization measures for classrooms and laboratories.

For example, in the late 1980s, COU and the Ontario Ministry conducted a joint study of classroom utilization, to determine whether the utilization assumptions were still appropriate.[2] Data from a sample of Ontario universities showed that the universities were meeting or exceeding the hours of use per week and percentage of seats occupied in the classroom space factor, and that the average area for the different furniture types currently in use was also consistent with the assumption in the formula. The survey also showed that extended use during the evening was occurring at many institutions.

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[1] *Building Blocks: Background Studies on the Development of a Capital Formula for Ontario. Volume I: Report of the Task Force - Space and Utilization* (Council of Ontario Universities, 1972), COU publication # 72-9; *Building Blocks: Volume VI: Report of the Subcommittee-Revisions to Building Blocks* (Council of Ontario Universities, 1978), COU publication # 78-12; and *Building Blocks: Volume VII: The Final Report of the Task Force to Review COU Space Standards* (Council of Ontario Universities, 1988), COU publication #88-1.

[2] *Classroom Space Utilization in Ontario Universities, 1988-89* (Council of Ontario Universities, 1990).

The publication of a major California study on university space standards also provided an opportunity to compare the COU standards to systems used in other North American jurisdictions. A short summary of the California study[3] demonstrated that the COU standards are consistent with standards used elsewhere in Canada and the U.S., and that in most space categories the COU standards are more rigorous.

In 1999, MGT of America, Inc. conducted their fourth national survey[4] and updated space standards in higher education. This is the latest published survey. Some of their findings are incorporated in Appendix A.

More than 30 years after they first appeared, the original *Building Blocks* publications are still requested by universities, government departments and planners in North America and abroad. The COU space formula retains its usefulness and credibility, in large part because it undergoes regular review and updating, a process that does not always occur in other jurisdictions.

Comments on the 2004-05 Inventory Report

The 2001-02 report represented the pre-double cohort[5]; the 2004-05 report represents the post-double cohort. In the three years between the 2001-02 and 2004-05 inventory reports, Ontario universities have seen (1) a dramatic increase in enrolment due to the double cohort, (2) a significant investment in capital projects by the Ontario government through the SuperBuild[6] initiative to address the increased enrolment, and (3) an increase in the number of new faculty needed to replace record numbers of retirees, to meet the enrolment expansion, to improve the province's faculty-student ratios, and to fill the Canada Research Chairs (CRCs)[7] program. The 2004-05 report shows that there has been a dramatic increase in space; however that space was targeted in certain space categories (classrooms, research labs and faculty offices) and there does not appear to be sufficient new space created to accommodate the increased enrolment. As can be seen in the following table, total formula space increased 11.6% while enrolment increased 26.1%. The total % I/G[8] figure has decreased from 79.6% in 2001-02 to 73% in 2004-05.

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[3] MGT Consultants, *Survey of Space and Utilization Guidelines and Standards in the Fifty States*, Report submitted to Mr. William L. Storey, Project Director, California Postsecondary Education Commission (Sacramento, March 31, 1989). Its findings are summarized in *University Space Standards in North America* (Council of Ontario Universities, 1990).

[4] MGT of America, Inc., *Space Standards for Selected States Higher Education Systems*, September 1999.

[5] Double Cohort: In the academic year 1998-99 the provincial government announced the elimination of Grade 13, resulting in two cohorts (double cohort) of secondary school students (graduates of the old five-year and new four-year curriculum) both seeking university admission at the same time, with a peak effect on university enrolments between 2002-03 and 2004-05.

[6] SuperBuild: In the 1999 provincial budget, the government announced the creation of SuperBuild, the largest capital investment in Ontario's postsecondary sector in more than 30 years, to help colleges and universities construct new academic buildings and upgrade existing teaching facilities to accommodate the growing numbers of students.

[7] In 2000, the Government of Canada allocated $900 million to establish 2,000 research professorships – Canada Research Chairs – in universities across the country. Chair-holders advance the frontiers of knowledge in their fields, not only through their own work, but also by teaching and supervising students and co-ordinating the work of other researchers.

	Total % I/G	% Change in Space 2001-02 and 2004-05	% Change in Enrolment 2001-02 and 2004-05
2001-02	79.6%		
2004-05	73.0%	11.6%	26.1%

It is predicted that the overall % I/G figure may decline further in the 2007-08 Inventory report, although new buildings are currently under construction. An increase in graduate enrolment is expected (see page 13) and, according to COU space standards, these students require three times the space as undergraduates.

In February 2005, The Honourable Bob Rae, Advisor to the Premier and the Minister of Training, Colleges and Universities submitted the findings and subsequent recommendations of the comprehensive Postsecondary Review in his report entitled *Ontario: A Leader in Learning*. Known as the Rae Review[9], the report included issues dealing with student & central services, faculty, support staff space, libraries and accessibility issues.

Capital Issues:

In its May 1999 budget, the Government of Ontario announced $742 million for universities and colleges to support construction of new classrooms, laboratories, and other facilities, as part of a new SuperBuild Growth Fund initiative. The capital funding recognized the significant increase expected in the demand for postsecondary education over the next decade, and the growing deferred maintenance requirement.

In the May 2000 budget, the Ontario government announced a further $286 million for enhancement initiatives.

In July 2000, the government announced details of a $95 million investment for modernization and renewal that will enable the province's colleges and universities to upgrade their existing facilities.

In May 2001, the government allocated $100 million to address maintenance costs incurred at colleges and universities.

In April 2003, the government announced a new round of SuperBuild allocations totalling $180.2 million to address the need for more space to accommodate higher-than-expected postsecondary enrolment.

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[8] % I/G: The ratio of actual inventory (I) and the inventory generated by COU space factors (G).

[9] Rae Review: In the Ontario Budget 2004, the government announced a review of the design and funding of postsecondary education. Premier McGuinty appointed the Honourable Bob Rae as Advisor to the Premier and the Minister of Training, Colleges and Universities to advise on strategies to improve higher education. The report is known as the Rae Review.

The total SuperBuild Commitments totalled $1,161.56 million. This infusion of capital will result in a total of 98,934 new student spaces: 52,077 for universities (plus 2,870 at the University of Ontario Institute of Technology (UOIT)); 33,435 for colleges; and 10,552 for joint projects between universities and colleges.

For universities (excluding UOIT and joint projects with colleges), the total SuperBuild commitment was $633.9 million, which accounted for 40% of the total estimated project costs. Other funding sources were institutions, federal and municipal governments, private, Access to Opportunities Program (ATOP) and Ontario Research Development Challenges Fund (ORDCF) and/or Ontario Innovation Trust (OIT). In many institutions, construction costs ran higher than the original estimates; institutions had to resort to borrowing and bond issues to compensate for the difference between extra costs and money received from SuperBuild.

The priority for SuperBuild funding was (1) classrooms, (2) faculty offices, and (3) class labs. According to the results of the 2004-05 survey, classroom facilities, research labs and academic office & related increased the most in terms of total space. Half of the increase in total space can be attributed to these three categories.

No government funding was provided to the institutions for residences and associated student service space (recreation, athletics, food service). Increases in residence space, in particular, was essential to deal with the double cohort. Between 2001-02 and 2004-05 total residence space increased by 20%, a 190,000 Net Assignable Square Metres (NASM) increase.

The following table compares the number of new student spaces universities committed to as a result of SuperBuild funding to the actual increase in enrolment. Construction of new buildings is still proceeding; the last round of SuperBuild funding was awarded in April 2003. In fact, at least 190,000 NASM is currently under construction and expected to be occupied within the next three years. The SuperBuild funding was not allocated evenly among all institutions.

	New Spaces Created from SuperBuild (SB)	Increase in UG FTE Enrolment	Shortfall: difference from new net SB spaces and actual enrolment
Feb 2000	28,511		
May 2000	4,850		
2002 *	1,500		
Subtotal	34,861	61,993	-27,132
2003	17,216		
Total	52,077	61,993	-9,916

* Excludes the 1,722 new university student spaces attributed to UOIT.

Space Inventory:

The following table shows that increases in space were not consistent among all categories. Total inventory increased from 2.6 million NASM to 2.9 million NASM between 2001-02 and 2004-05, an increase of 11.6%. However, enrolment increased by 26.1% during this same time period.

	2001-02	2004-05	% Change
FTE Enrolment	268,281	338,448	26.1%
FTE Faculty	13,388	15,897	18.7%
Inventory	2,613,557	2,916,461	11.6%
Classrooms	265,015	324,465	22.4%
Class Labs	323,384	340,900	5.4%
Research Labs	367,422	430,612	17.2%
Academic Office	519,890	585,085	12.5%
Administrative Office	196,723	219,055	11.4%
Campus Study Space…	343,363	368,804	7.4%
Recreation/Athletics	186,153	202,931	9.0%
Student & Central Services	359,964	391,146	8.7%

The following table compares the % I/G figure by space category for 2001-02 and 2004-05: The % I/G for classrooms has declined from 80.3% to 77.9%, but total inventory increased from 265,015 to 324,465.

Although the inventory for Class Labs increased, the % I/G declined. The number of labs were reduced per class to accommodate students; in some cases, labs were offered biweekly. Class Labs were not given as high a priority by the SuperBuild program – the result is a shortage of lab space to accommodate the enrolment increase.

	2001-02 % I/G	2004-05 % I/G
Classrooms	80.3	77.9
Class Labs	79.2	68.0
Research Labs	80.8	77.3
Academic Office	89.5	84.0
Administrative Office	107.4	103.1
Campus Study Space…	71.9	67.2
Recreation/Athletics	72.6	63.1
Maintenance Shops	90.0	83.6
Student & Central Services	67.1	57.8
TOTAL	79.6	73.0

Tables D and E (pages 30, 31) show the ratio of NASM/FTE students for actual inventory and generated inventory. In 2004-05, the COU formula generates 11.8 NASM per FTE student; the current system provides 8.6 NASM per FTE student. The following table shows the trend in total Formula Areas (NASM)/FTE students from 1977-78 to 2004-05:

	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Generated	11.8	12.0	11.7	12.4	12.2	11.8	12.1	12.3	12.5	11.8
Actual	11.3	11.6	10.6	11.0	10.2	9.8	10.5	10.6	9.7	8.6

Expansion of Graduate Enrolment:
In November 2003, COU released the report of its Task Force on Future Requirements for Graduate Education in Ontario entitled *Advancing Ontario's Future Through Advanced Degrees*. The report concluded that the Ontario university sector must virtually double its current (2002-03) graduate enrolment capacity to meet the projected demand for graduate education within a decade (to 2013-14). The Task Force assessed this demand by analyzing the expanding undergraduate base (due in part to the double cohort) and the increasing participation rate (which includes mid-career Ontarians who are returning from the workforce seeking advance education to keep pace with the knowledge economy).

In June 2005 the Ontario government announced $600 million in additional capital investment to accommodate the proposed increase in medical enrolment and to increase graduate enrolment by 14,000.

The Rae Review also recommended that graduate enrolment be expanded at those institutions that can demonstrate quality and a capacity to provide the necessary supports to students to ensure the successful and timely completion of their studies.
"An immediate start to graduate expansion is imperative: double-cohort undergraduates are graduating. Ontario is facing a faculty shortage due to retirements, and the province needs to close the productivity gap with competing jurisdictions.
"To respond, the government should move to double the number of graduate students in Ontario to approximately 60,000 over ten years. There is a need to address this type of space."

The following table shows the increase in graduate enrolment from 2001-02 and 2004-05 by research grouping (see page 112 for definition on programs included in these groups).

By Research Grouping	2001	2004	% Distribution 2001	% Distribution 2004	% Change	Space Generated per student (sq.m.)
Group A	5,143	7,141	16.8%	19.5%	38.8%	29.4
Group B	4,000	4,487	13.1%	12.2%	12.2%	21.9
Group C	1,767	3,137	5.8%	8.6%	77.5%	16.9
Group D	3,606	4,280	11.8%	11.7%	18.7%	11.9
Group E	16,058	17,634	52.5%	48.1%	9.8%	7.4
TOTAL	30,574	36,679	100.0%	100.0%	20.0%	14.5

According to COU standards, each graduate student generates between 7.4 and 29.4 NASMs (classrooms, lab space, graduate offices, office support, library) depending on the program, compared to 1.8 NASMs (classrooms, library) for undergraduate students. Graduate classes are normally held in smaller classrooms and/or seminar rooms, not lecture theatres. Also, the student-faculty ratio is typically lower for graduate students than undergraduate students, which means that increasing graduate enrolment would require increasing the faculty complement.

Faculty:
There has been an increase of over 2,500 FTE faculty between 2001-02 and 2004-05. Although SuperBuild funding was not specifically targeted for faculty, offices and research labs had to be

provided for the additional faculty, which resulted in an increase in faculty office space. The following table shows that the increase in faculty office space was not sufficient for the increase in faculty:

	FTE Faculty	Academic Office Space
2001-02	13,388	519,890
2004-05	15,905	585,085
% Change	18.8%	12.5%

The Rae Review supported the hiring of additional faculty:

"The hiring of additional faculty will be one of the measurable quality improvements sought as additional revenues are provided to institutions beginning in 2005-06. Additional resources will allow a focus on learning and the hiring of faculty and the development of teaching excellence in Ontario's institutions of higher education".

Additional resources are needed to improve the delivery of education. Additional faculty are required to improve students' educational experience and academic challenge through improved student-faculty contact, more opportunity for active learning, interaction and feedback to students, and enhanced accommodation of diverse ways of learning."

Research Space:

More research space is required, especially with the double cohort moving through the system to graduate programs in the next few years, the increase in faculty, and accommodation for the increased number of Canada Research Chairs and their support staff. The SuperBuild program funded very little in additional research space; funding for new research space was provided through the Canada Foundation for Innovation (CFI) and/or OIT, and through increased institutional funding. Some institutions built significant research space through the CFI program.

COU's space standards for research space are consistent with some U.S. data. For example, according to the MGT space analysis study for the university and community college system of Nevada in 2000, research lab space varies from 0 to 47 assignable square metres per FTE faculty, dependent on the department and/or discipline. Faculty in some departments and/or disciplines are allocated no research space. By comparison, in Ontario research lab space varies from 1 to 45 NASM, dependant on the department and/or discipline. All disciplines are allocated research lab space.

Campus Study Space & Library Facilities Space:

The Rae Review recognized the importance of investing in libraries:

"Investments in library resources are needed to provide better access to learning resources and facilities for collaborative learning."

The following tables show that study space did not increase at the same ratio as enrolment.

Study Space	2001-02	2004-05	% Change
Total FTE Enrolment	268,281	338,448	26.2%
Inventory	85,047	93,095	9.5%

Student Computer Rms	2001-02	2004-05	% Change
Undergrad FTE Enrolment	237,654	301,378	26.8%
Inventory	16,757	23,200	38.4%

Stack Space	2001-02	2004-05	% Change
Total Equivalent Volumes	38,773,107*	40,883,941	5.4%
Inventory	168,599	173,564	2.9%

* This figure was changed to make it consistent with the 2004-05 report. The bound serial volume equivalency was changed, but not all institutions reported bound and unbound separately, so this figure should be greater than reported. Also UOIT is not included in the 2001-02 report.

Student and Central Services:

The Rae Review supported an expansion of student support services:

"Expansion of student support services is required to ensure a supportive campus environment for students as well as improved success and retention through support networks, and academic and personal counseling."

The COU standards allocated 2.0 NASM/FTE student for student and central services. As can be seen from the following table, the actual NASM/FTE student has been declining over time.

Student and Central Services: **Actual Ratio NASM/FTE Student**

	7 Food Service	8 Bookstore	11 AV TV	12 Central Services	13 Health Services	14 Student Activity	15 Assembly Exhibition	NASM/FTE Student	COU
1977	0.55	0.16	0.08	0.24	0.03	0.55	0.27	1.9	2.0
1980	0.54	0.17	0.08	0.22	0.03	0.52	0.27	1.8	2.0
1983	0.47	0.15	0.07	0.23	0.03	0.46	0.25	1.7	2.0
1986	0.48	0.15	0.07	0.24	0.03	0.42	0.23	1.6	2.0
1989	0.42	0.14	0.06	0.22	0.03	0.37	0.22	1.5	2.0
1992	0.43	0.12	0.06	0.20	0.02	0.37	0.23	1.4	2.0
1995	0.44	0.14	0.05	0.21	0.03	0.42	0.23	1.5	2.0
1998	0.44	0.16	0.05	0.22	0.03	0.42	0.23	1.6	2.0
2001	0.40	0.14	0.04	0.13	0.03	0.38	0.22	1.3	2.0
2004	0.34	0.11	0.04	0.10	0.03	0.35	0.19	1.2	2.0
COU	0.50 to 0.70	0.10 to 0.20	0.05 to 0.10	0.10 to 0.30	0.03 to 0.05	0.50 to 0.70	0.15 to 0.40		

Support Staff Space:

The Rae Review recognized the importance of additional space for support staff:

"In consultations with financial aid administrators and students, numerous issues were raised: (1) students having to wait over a month to schedule non-emergency meetings with the financial aid office, (2) financial aid offices that did not have the space to offer students any privacy during discussions that may be of a personal and sensitive nature, and (3) students waiting in line for required support services in different buildings across campuses because the services were not well co-ordinated or easily accessed.

"Given the importance of student services – from financial aid to support services for students with disabilities, to financial and other counseling – this area needs to command the attention and interest of the senior administration."

The following table shows the ratio of FTE faculty to support staff:

	FTE Faculty / Academic Support Staff	FTE Faculty / Administrative Support Staff	FTE Faculty / Total Support Staff
2001-02	1.6	1.4	0.7
2004-05	1.6	1.5	0.8

Accessibility:

The Rae Review recognized the importance of accessibility to students with disabilities:
"Persons with disabilities can face formidable barriers to accessing postsecondary education. These can include inadequate financial support, physical inaccessibility, ..."
"The Ontario Human Rights Commission's disability policy affirms that accessibility for postsecondary students with disabilities goes beyond physical accessibility..."

Through Bill 118: Accessibility for Ontarians with a Disability Act, standards will be created to increase access to people with disabilities, both learning and physical. Universities must consider persons with disabilities in any capital projects. When designing new buildings, universities need to go through a consultation process to ensure that buildings are accessible.

Age of Buildings:

Table 3 (page 57) shows the effect of the infusion of SuperBuild money on the age of buildings. There have been so many new buildings built since 2001 that the average age has remained constant at 32.5 years (in 2001 it was 33 years). If the buildings built since 2001 are eliminated from the calculation, the average age of buildings will increase to 36 years. Universities are renting more buildings to cope with the double cohort bulge. In 2001 18,868 NASM of building space was classified as rental space; by 2004 that figure increased to 35,731 NASM, an increase of 90%.

Facilities Condition Assessment Program

In 1999, the COU Joint Task Force of CSAO and OAPPA, with representation from the COU Committee on Space Standards and Reporting, was struck to oversee the implementation of the Facilities Condition Assessment Program. Ontario universities collaboratively purchased a software package developed by Vanderweil Facilities Advisors (VFA), a database application for facility management. The implementation of the Facilities Condition Assessment Program using a consistent software program will ensure that Ontario's universities will be better able to identify the true costs of deferred maintenance and measure the effects of funding aimed at addressing these costs. By moving to a common software program, the university community is now in a position to provide useful system-wide analysis of deferred maintenance liabilities and the effects of added investment by the province and institutions.

The 2005 report, released November 2005, shows that with more than 80 percent of university buildings audited the overall FCI (facilities condition index) system average is 0.10 (an FCI of

0.10 or higher represents buildings in poor condition), a slight improvement over 2004 where the FCI was 0.11. However, much of this improvement is attributed to the construction of new buildings resulting in a 10 percent increase in the current replacement value. Deferred maintenance actually increased by 6 percent.

Issues Reviewed by the Committee: 2002 to 2004

Commencing with the 2004-05 report the following changes were made:

- University of Ontario Institute of Technology was included for the first time in 2004-05.

- Academic and Administrative Office Support space
  The space factor for academic support space was changed from 30% to 25%, and the space factor for administrative office support space was changed from 30% to 50%.

- Research space
  The Committee reviewed research space as to the currency of space factors and program classification. This review resulted in a number of changes to the program classification scheme (see below), but no change to the space factors.

- New Category 3.3 Research Project Space
  Technicians, professional staff, including those conducting research, and upper-year undergraduate students who perform the work of graduate students will now be reported under this category.

- Faculty Office space
  The Committee reviewed the space factor for FTE Faculty (13 NASM), comparing it to other jurisdictions and agreed that it is still appropriate.

- Library/Learning Commons/ Computing space
  The equivalency volume of bound serial volumes changed from 50 to 125.
  Reporting of the percentage of volumes in compact storage is now institution-specific rather than 10% for all institutions.
  Changed the space factor for ALL students to 0.6. Previously different space factors were used for undergraduates, professional undergraduates and graduate students.
  The Committee is continuing to work with OCUL (Ontario Council of University Librarians) to ensure that this changing category of space is reported accurately.

- The definition for Other Research Appointments has been updated (see page 140).

- Parking structures are reported under category 16.4. In previous reports parking structures were reported in Category 19.

Changes to Program Classification Scheme
Man/Environment studies – Physical; changed from Group C to Group D
Man/Environment studies – Human; changed to Group E
Household Science & Related: changed from Group D to Group C
Design, Systems Engineering: changed from Group C to Group D
Kinesiology: universities can report in either Group D or Group C
Anthropology: changed to Group C
Chemical Engineering: changed to Group B
Mining Engineering: changed to Group A
Other Engineering: changed to Group C

NOTE: Because of the above changes and improvements, caution should be made in making comparisons with previous reports.

Some Committee Activities since 1987

- Review and publication of the institutional responses to triennial surveys of physical resources. (ongoing)
- Produced a Users' Guide for completing space surveys (1992, 1995, 1998, 2001, 2004).
- Conducted a study of classroom utilization in Ontario universities (joint project with the Ontario Ministry). (late 1980s)
- Examined *Building Blocks* formula in relation to university space standards in other North American jurisdictions. (1990)
- Reviewed space guidelines for performance-oriented disciplines (such as Music, Film, Dance). (1991)
- Investigated the impact of computing on several space categories. (1992 to 2001)
- The Committee reviewed the library volume equivalencies used in the generation of stack space entitlement. With the assistance of OCUL, the committee adopted the methodology used by the Canadian Association of Research Libraries (CARL). Working with OCUL to review library space factors (1995 and 2004)
- Provided background information and scenarios for PricewaterhouseCoopers to examine the impact of the anticipated increase of students on the existing physical facilities of Ontario universities. (1998)
- Classroom surveys conducted in 1997 and 1999.
- Working with the COU Joint Task Force of CSAO and OAPPA on Facilities Condition Assessment. (1999 to present)
- Provided input to COU on the impact of university facilities on increased enrolment due to double cohort. (1999 to 2001)
- Presentation at CAUBO conference entitled "Where Are We Going to Put Them?" (June 2001)
- Reviewed and/or updated classroom formula, deans' space, computer space. (1999 to 2002)
- Reviewed and/or updated (1) Research space entitlements and effect of Canada Research Chairs on research space, (2) Academic and Administrative office support space, (3) Library / Learning Commons / Computing Space, and (4) Graduate student space (2004).

Section 2

AN OVERVIEW

1977-78 to 2004-05

AN OVERVIEW, 1977-78 to 2004-05

NOTES

Tables A through I show actual and generated space inventory figures by COU space categories from 1977-78 to 2004-05. The reader should be aware that this data are not directly comparable during this time period, for a number of reasons:

- In the 1977-78 and 1980-81 reports, data were reported in NASF (net assignable square feet). For comparability purposes, the data were converted to NASM (net assignable square metres) using a factor of 10.764.

- A consistent set of institutions is not included for all survey years.
  1977-78: Algoma, Hearst, Nipissing, OISE and OCAD were not included.
  1980-81: Algoma, Hearst, Nipissing, and OISE were not included.
  1983-84: Hearst and partial data for OISE were not included.
  1986-87: Algoma, Hearst, Nipissing, OISE, and OCAD reported data, but were not included in the summary data because "COU standards can't be applied to small or special purpose institutions."
  1989-90: Algoma, OISE, and OCAD were not included; Hearst and Nipissing reported data but were not included in the summary data. See 1986-87 note.
  1998-99: OISE is included with Toronto (St. George) data.
  2004-05: UOIT is included.

- The COU Task Force to Review COU Space Standards revised some space factors and input measures for the 1986-87 report. A number of minor changes were made to most categories, but the space factors for Academic and Administrative Office changed most dramatically as seen in the following table:

Category	COU Space Factor: 1977-78 to 1983-84	COU Space Factor: 1986-87 to 2001-02	COU Space Factor: 2004-05
Academic Office (4)	19.516 NASM per FTE Faculty 3.717 NASM per FTE Graduate Student Factors for faculty include a provision for academic support staff and service.	13.0 NASM per FTE Faculty x 1.15 4.0 NASM per FTE Graduate Student 30% of total generated for faculty & grad students.	13.0 NASM per FTE Faculty x 1.15 4.0 NASM per FTE Graduate Student 25% of total generated for faculty and grad students.
Administrative Office (10)	0.84 NASM per student includes a provision for service space.	13.0 NASM per FTE Non-Academic Office Staff 30% of total generated for non-academic staff.	13.0 NASM per FTE Non-Academic Office Staff 50% of total generated for non-academic staff.

Please see *Building Blocks Volume 7. Final Report of the Task Force to Review COU Space Standards* for revisions made to all categories.

The reader should be aware that comparisons should not be made in "generated space".

- Commencing with the 1992-93 report, COU has included federated and affiliated colleges in the triennial survey, in response to the Ontario Ministry's funding requirements. Data on space and activities at all of these institutions are now fully integrated into the reports of their constituent universities.

- Commencing with the 1992-93 report, Nipissing University appears as a separate institution – in previous years Nipissing was reported as an affiliated college of Laurentian University.

- In conducting the 1995-96 survey, special efforts were made to ensure that the data were consistent with other sources of information, such as student enrolment data reported to the Ontario Ministry, and that significant variances from the previous report were justified. Work will continue to improve the completeness and consistency of reporting for the triennial surveys. The Committee will continue to review the formula as changes in university program delivery and administrative requirements dictate.

- Commencing with the 1995-96 report, the library equivalency calculation was changed.

- Prior to 2001-02, caution should be exercised when analyzing Class Lab and Lab-Research data. The figures may not necessarily agree between Table 2 and the institutional/summary tables. Table 2 includes all space, but the institutional/summary tables only include the space in those disciplines that can be categorized in Groups A to E (for Lab-Research) and Groups W to Z (Class Lab). Since 2001-02, this has been corrected.

- Commencing with the 2004-05 report, the percentage of space allocated for administrative and academic support space has changed. See page 17 for further details. Use caution when making historical comparisons.

- Commencing with the 2004-05 report, study space is now reported in category 5. Previously it was reported in category 12.

- Commencing with the 2004-05 report, Parking structures are now reported in category 16. Previously it was reported in category 19.

- Commencing with the 2004-05 report, there were a number of changes to the Library/Learning Commons space. See page 17 for further details.

NOTE: Because of the above changes and improvements, caution should be made in making comparisons with previous reports.

HIGHLIGHTS (Tables)

Table A: Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2004-05
This table shows the change in actual inventory by the 20 COU space categories in the past 27 years.

Formula space areas increased over 11% between 2001 and 2004. Over 60% of this increase is in Classroom Facilities, Lab Grad & Faculty, and Academic Office categories.

The increase in Non-Assignable space between 2001 and 2004 is due to a coding change for Parking Structures.

Non-Formula space areas actually declined 23% between 2001 and 2004 if residence space is excluded. Residence space increased almost 20% due to the double cohort.

Table B: Percentage Distribution of Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2004-05
This table compares the percentage distribution of space among the 20 COU space categories between 1977-78 and 2004-05.

The formula space percentage distribution in 2004-05 has been skewed by the growth in non-formula space, in particular, residential space (category 17). Residence space has increased almost 20% between 2001 and 2004 in response to the dramatic increase in students due to the double cohort. Therefore, caution should be taken when examining the percentage distribution figures in this table.

For a more accurate examination of the percentage distribution in formula space areas, please see Table C.

Table C: Percentage Distribution of Total ACTUAL Space Inventory by COU Formula Space Categories, 1977-78 to 2004-05
This table shows the same data as in Table B, but includes only formula space.

- Classroom space has occupied about 10% of the total formula space between 1977-78 and 2004-05. Between 2001-02 and 2004-05 the percentage of Classroom space increase from 10.1% to 11.1% of the total formula space. This represents the increased space for double cohort through SuperBuild.
- Lab Undergraduate's share of total formula space has been declining steadily since 1977-78 from 16.8% to 11.7% in 2004-05. Between 2001-02 and 2004-05 this figure declined from 12.4% to 11.7%.

Table D: Total ACTUAL Space Inventory (NASM) by COU Formula Space Classification, 1977-78 to 2004-05
This table shows actual space inventory by formula space classifications for the past 24 years.

Between 1977-78 and 2001-02, the ratio of *Total Formula Area* (NASM) to *FTE Students* has ranged between 9.7 and 11.6. Since 1998-99 this ratio has been steadily declining.

In 2004-05, the ratio reached its lowest level since 1977-78 at 8.6 NASM/FTE student.

Table E: Total GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 to 2004-05

This table shows the *Generated* space by formula space classification. This table is comparable to Table C, which shows actual space by formula space classification.

The ratio between *Total Formula areas (NASM)* and *FTE Students* has remained relatively constant since 1977-78 at approximately 12 NASM / FTE Student.

Table F: Percentage Change of GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 and 2004-05

This table compares the percentage distribution of generated space among the COU formula categories between 1977-78 and 2004-05.

Table G: ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification, 1992-93, 1998-99, and 2004-05

This table compares *Actual* and *Generated* space by COU formula space classification in 1992-93, 1998-99, 2001-02 and 2004-05.

Between 1992-93 and 2004-05, the total space inventory increased by 468,000 NASM, while according to the COU space formula, 1,050,000 NASM is required; and the Actual Inventory / Generated Space figure declined from 83.2% to 73.0%.

In the past 3 years there has been a significant increase in space due to the double cohort; the total space inventory increased by 303,000 NASM, while according to the COU space formula, 653,000 NASM is required; and the Actual Inventory / Generated Space figure declined from 78.2% to 73.0%.

The actual inventory for Class Labs increased between 2001 and 2004, but the % I/G decreased from 79.2% in 2001-02 to 68.0% in 2004-05. Labs per class were reduced to accommodate increase in students and in some cases Class Labs were offered biweekly instead of weekly. Class Labs were not given as high a priority by the SuperBuild program – therefore in 2004-05 there are fewer Class Labs as a percentage of the undergraduate enrolment than in 2001-02.

Table H: Ratio of ACTUAL Inventory to GENERATED Space (NASM) by Formula Space Classification, 1977-78 to 2004-05

This table shows the actual inventory / generated space for each major COU space classification.

Table I: Historical Summary of Statistics, 1986-87 to 2004-05

This table shows various space-related historical ratios.

Table A

Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2004-05

Cat. # Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05	% Change 2001-02 to 2004-05
Formula Areas (NASM)											
1. Classroom Facilities	209,776	210,269	215,897	206,972	218,568	247,913	256,078	260,194	265,015	324,465	22.4
2. Lab Undergrad	323,156	331,267	332,034	311,046	310,303	326,451	333,493	325,353	323,384	340,900	5.4
3. Lab Grad & Faculty	230,534	232,485	250,410	300,052	318,474	339,867	345,662	349,394	367,422	430,612	17.2
4. Acad. Office & Related	304,711	311,910	335,637	355,143	382,202	457,342	463,055	490,985	519,890	585,085	12.5
5. Campus Study Space & Library Facilities	243,173	256,235	264,178	264,431	280,579	318,214	326,963	325,471	343,363	368,804	7.4
6. Recreation/Athletic Space	127,976	142,962	155,306	153,520	158,880	168,970	180,809	177,215	186,153	202,931	9.0
7. Food Service	92,991	92,307	90,557	92,746	90,372	106,188	106,024	105,743	106,121	114,999	8.4
8. Bookstore & Merch. Facilities	26,572	28,214	29,104	28,694	29,254	30,031	34,350	38,037	37,804	37,693	(0.3)
9. Plant Maintenance	37,421	40,136	37,064	43,122	44,833	50,562	50,893	52,434	51,641	53,462	3.5
10. Admin. Office & Related	135,173	138,895	149,336	164,200	180,054	192,525	211,166	200,089	196,723	219,055	11.4
11. AV / TV Facilities	13,399	13,817	14,182	13,609	13,363	14,264	12,722	12,983	11,996	12,403	3.4
12. Central Services	41,246	38,217	43,435	47,110	48,276	50,849	50,917	53,180	34,225	34,989	2.2
13. Health Service Facilities	5,380	5,775	5,231	6,206	5,980	5,617	6,723	7,286	8,132	10,008	23.1
14. Student Activity Space	93,721	88,887	89,472	80,647	80,633	92,344	102,238	101,491	101,998	118,190	15.9
15. Assembly, Exhibition Facilities	45,462	46,079	47,298	44,185	47,349	56,281	56,043	54,812	59,687	62,865	5.3
Subtotal - Formula Areas	1,930,691	1,977,456	2,059,141	2,111,683	2,209,120	2,457,418	2,537,136	2,554,667	2,613,554	2,916,461	11.6
16. Non-Assignable (SM)	1,200,599	1,233,516	1,190,652	1,280,366	1,370,036	1,544,729	1,655,401	1,700,105	1,714,576	2,099,122	22.4
Non-Formula Areas (NASM)											
17. Residential Space	520,716	536,874	575,808	584,118	630,660	808,758	843,940	867,611	964,840	1,154,665	19.7
18. Animal Space	12,484	10,304	11,118	7,440	7,554	7,815	9,333	9,931	10,324	9,366	(9.3)
19. Other	37,634	40,453	41,701	61,229	57,968	70,222	73,245	82,246	157,215	101,526	(35.4)
20. Health Sci. Clinical Facilities	27,299	51,465	53,233	92,177	79,927	70,696	72,824	78,403	80,440	79,549	(1.1)
Subtotal - Non-Formula Areas	598,132	639,095	681,860	744,964	776,109	957,491	999,342	1,038,191	1,212,818	1,345,105	10.9
Total	3,729,423	3,850,067	3,931,653	4,137,013	4,355,265	4,959,638	5,191,879	5,292,963	5,540,949	6,360,688	14.8

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,12,16 and 19. For more details see NOTES section on pages 23 and 24.

Table B

Percentage Distribution of Total ACTUAL Space Inventory by COU Space Categories, 1977-78 to 2004-05

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Formula Areas (NASM)											
1.	Classroom Facilities	5.6%	5.5%	5.5%	5.0%	5.0%	5.0%	4.9%	4.9%	4.8%	5.1%
2.	Lab Undergrad	8.7%	8.6%	8.4%	7.5%	7.1%	6.6%	6.4%	6.1%	5.8%	5.4%
3.	Lab Grad & Faculty	6.2%	6.0%	6.4%	7.3%	7.3%	6.9%	6.7%	6.6%	6.6%	6.8%
4.	Acad. Office & Related	8.2%	8.1%	8.5%	8.6%	8.8%	9.2%	8.9%	9.3%	9.4%	9.2%
5.	Campus Study Space & Library Facilities	6.5%	6.7%	6.7%	6.4%	6.4%	6.4%	6.3%	6.1%	6.2%	5.8%
6.	Recreation/Athletic Space	3.4%	3.7%	4.0%	3.7%	3.6%	3.4%	3.5%	3.3%	3.4%	3.2%
7.	Food Service	2.5%	2.4%	2.3%	2.2%	2.1%	2.1%	2.0%	2.0%	1.9%	1.8%
8.	Bookstore & Merch. Facilities	0.7%	0.7%	0.7%	0.7%	0.7%	0.6%	0.7%	0.7%	0.7%	0.6%
9.	Plant Maintenance	1.0%	1.0%	0.9%	1.0%	1.0%	1.0%	1.0%	1.0%	0.9%	0.8%
10.	Admin. Office & Related	3.6%	3.6%	3.8%	4.0%	4.1%	3.9%	4.1%	3.8%	3.6%	3.4%
11.	AV / TV Facilities	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%
12.	Central Services	1.1%	1.0%	1.1%	1.1%	1.1%	1.0%	1.0%	1.0%	0.6%	0.6%
13.	Health Service Facilities	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
14.	Student Activity Space	2.5%	2.3%	2.3%	1.9%	1.9%	1.9%	2.0%	1.9%	1.8%	1.9%
15.	Assembly, Exhibition Facilities	1.2%	1.2%	1.2%	1.1%	1.1%	1.1%	1.1%	1.0%	1.1%	1.0%
Subtotal - Formula Areas		51.8%	51.4%	52.4%	51.0%	50.7%	49.5%	48.9%	48.3%	47.2%	45.9%
16.	**Non-Assignable (SM)**	32.2%	32.0%	30.3%	30.9%	31.5%	31.1%	31.9%	32.1%	30.9%	33.0%
Non-Formula Areas (NASM)											
17.	Residential Space	14.0%	13.9%	14.6%	14.1%	14.5%	16.3%	16.3%	16.4%	17.4%	18.2%
18.	Animal Space	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
19.	Other	1.0%	1.1%	1.1%	1.5%	1.3%	1.4%	1.4%	1.6%	2.8%	1.6%
20.	Health Sci. Clinical Facilities	0.7%	1.3%	1.4%	2.2%	1.8%	1.4%	1.4%	1.5%	1.5%	1.3%
Subtotal - Non-Formula Areas		16.0%	16.6%	17.3%	18.0%	17.8%	19.3%	19.2%	19.6%	21.9%	21.1%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,12,16 and 19. For more details see NOTES section on pages 23 and 24.

Table C

Percentage Distribution of Total ACTUAL Space Inventory by COU Formula Space Categories, 1977-78 to 2004-05

Cat. #	Space Category	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Formula Areas (NASM)											
1.	Classroom Facilities	10.9%	10.6%	10.5%	9.8%	9.9%	10.1%	10.1%	10.2%	10.1%	11.1%
2.	Lab Undergrad	16.7%	16.8%	16.1%	14.7%	14.0%	13.3%	13.1%	12.7%	12.4%	11.7%
3.	Lab Grad & Faculty	11.9%	11.8%	12.2%	14.2%	14.4%	13.8%	13.6%	13.7%	14.1%	14.8%
4.	Acad. Office & Related	15.8%	15.8%	16.3%	16.8%	17.3%	18.6%	18.3%	19.2%	19.9%	20.1%
5.	Campus Study Space & Library Facilities	12.6%	13.0%	12.8%	12.5%	12.7%	12.9%	12.9%	12.7%	13.1%	12.6%
6.	Recreation/Athletic Space	6.6%	7.2%	7.5%	7.3%	7.2%	6.9%	7.1%	6.9%	7.1%	7.0%
7.	Food Service	4.8%	4.7%	4.4%	4.4%	4.1%	4.3%	4.2%	4.1%	4.1%	3.9%
8.	Bookstore & Merch. Facilities	1.4%	1.4%	1.4%	1.4%	1.3%	1.2%	1.4%	1.5%	1.4%	1.3%
9.	Plant Maintenance	1.9%	2.0%	1.8%	2.0%	2.0%	2.1%	2.0%	2.1%	2.0%	1.8%
10.	Admin. Office & Related	7.0%	7.0%	7.3%	7.8%	8.2%	7.8%	8.3%	7.8%	7.5%	7.5%
11.	AV / TV Facilities	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.4%
12.	Central Services	2.1%	1.9%	2.1%	2.2%	2.2%	2.1%	2.0%	2.1%	1.3%	1.2%
13.	Health Service Facilities	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%
14.	Student Activity Space	4.9%	4.5%	4.3%	3.8%	3.7%	3.8%	4.0%	4.0%	3.9%	4.1%
15.	Assembly, Exhibition Facilities	2.4%	2.3%	2.3%	2.1%	2.1%	2.3%	2.2%	2.1%	2.3%	2.2%
Total - Formula Areas		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,12,16 and 19. For more details see NOTES section on pages 23 and 24.

Table D

Total ACTUAL Space Inventory (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2004-05

Cat. #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Formula Areas											
1	Classroom Facilities	209,776	210,269	212,434	206,972	218,568	247,913	256,078	260,194	265,015	324,465
2	Class Lab	323,156	331,267	332,034	311,046	308,474	321,919	326,708	323,541	323,384	340,900
3	Lab - Research Facilities	230,534	232,485	250,106	300,052	312,657	335,255	340,867	345,767	367,422	430,612
4	Academic Office and Related	304,711	311,910	326,471	298,472	382,202	457,342	463,055	490,985	519,890	585,085
10	Administrative Office	135,173	138,895	146,886	220,871	180,054	192,525	211,166	200,089	196,723	219,055
5.	Campus Study Space & Library Facilities	243,173	256,235	259,548	264,431	280,579	318,214	326,963	325,471	343,363	368,804
6	Recreation/Athletics	127,976	142,962	155,306	153,520	158,880	168,970	180,809	177,215	186,153	202,931
7-9, 11-15	Other *	356,191	353,432	349,839	356,319	360,060	406,136	419,910	425,966	411,604	444,609
Total - Formula Areas		1,930,691	1,977,456	2,032,624	2,111,683	2,201,474	2,448,274	2,525,556	2,549,228	2,613,554	2,916,461
FTE Students		**170,587**	**170,835**	**192,624**	**192,838**	**215,184**	**248,792**	**241,098**	**240,986**	**268,281**	**338,448**
Total Formula Areas (NASM) / FTE Students		**11.3**	**11.6**	**10.6**	**11.0**	**10.2**	**9.8**	**10.5**	**10.6**	**9.7**	**8.6**

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

In 1986-87, Academic Office was the sum of categories 4.1, 4.2, 4.3 and 4.5. Administrative Office was the sum of categories 4.4, 10.1 and 10.2. Prior to 2001-02, actual space figures do not include space where the discipline has not been categorized into Group A to E (for Labs: Research) and Group W to Z (for Class Lab). Therefore these numbers do not agree with Table A.

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,and 12. For more details see NOTES section on pages 23 and 24.

Table E

Total GENERATED Space (NASM) by COU Formula Space Classification and NASM per FTE Student, 1977-78 to 2004-05

Cat #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Formula Areas:											
1	Classroom Facilities	206,023	206,323	232,724	231,405	258,220	298,551	289,317	289,183	329,986	416,291
2	Class Lab	310,674	330,651	339,885	323,758	324,505	358,283	357,967	370,708	408,197	501,137
3	Lab - Research Facilities	256,306	251,128	281,617	327,236	352,848	391,027	403,446	409,887	454,829	557,159
4	Academic Office and Related	293,813	290,158	304,436	342,078	466,412	514,831	499,819	507,443	603,847	696,704
10	Administrative Office	142,632	142,839	161,116	220,927	162,467	165,790	162,436	148,131	158,817	212,387
5.	Campus Study Space & Library Facilities	273,115	293,555	328,463	327,804	373,000	423,698	432,638	466,966	534,670	549,079
6	Recreation/Athletics	162,086	164,129	184,107	187,554	203,665	242,913	236,988	234,887	256,453	321,603
7-9, 11-15	Other *	372,427	372,968	420,693	428,490	475,218	548,808	535,938	535,864	593,958	740,820
Total - Formula Areas		2,017,076	2,051,750	2,253,041	2,389,252	2,616,335	2,943,901	2,918,549	2,963,069	3,340,758	3,995,180
FTE Students		**170,587**	**170,835**	**192,624**	**192,838**	**215,184**	**248,792**	**241,098**	**240,986**	**268,281**	**338,448**
Total Formula Areas (NASM) / FTE Students		**11.8**	**12.0**	**11.7**	**12.4**	**12.2**	**11.8**	**12.1**	**12.3**	**12.5**	**11.8**

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,and 12. For more details see NOTES section on pages 23 and 24.

Table F

Percentage Distribution of GENERATED Space (NASM) by COU Formula Space Classification, 1977-78 to 2004-05

Cat #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Formula Areas:											
1	Classroom Facilities	10.2%	10.1%	10.3%	9.7%	9.9%	10.1%	9.9%	9.8%	9.9%	10.4%
2	Class Lab	15.4%	16.1%	15.1%	13.6%	12.4%	12.2%	12.3%	12.5%	12.2%	12.5%
3	Lab - Research Facilities	12.7%	12.2%	12.5%	13.7%	13.5%	13.3%	13.8%	13.8%	13.6%	13.9%
4	Academic Office and Related	14.6%	14.1%	13.5%	14.3%	17.8%	17.5%	17.1%	17.1%	18.1%	17.4%
10	Administrative Office	7.1%	7.0%	7.2%	9.2%	6.2%	5.6%	5.6%	5.0%	4.8%	5.3%
5	Campus Study Space & Library Facilities	13.5%	14.3%	14.6%	13.7%	14.3%	14.4%	14.8%	15.8%	16.0%	13.7%
6	Recreation/Athletics	8.0%	8.0%	8.2%	7.8%	7.8%	8.3%	8.1%	7.9%	7.7%	8.0%
7-9, 11-15	Other *	18.5%	18.2%	18.7%	17.9%	18.2%	18.6%	18.4%	18.1%	17.8%	18.5%
Total - Formula Areas		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,and 12. For more details see NOTES section on pages 23 and 24.

Table G

ACTUAL Inventory / GENERATED Space (NASM) by COU Formula Space Classification.
1992-93, 1998-99 and 2001-02, 2004-05

		1992-93			1998-99			2001-02			2004-05		
Cat. #	Space Classification	Generated Space (G)	Actual Inventory (I)	% I/G	Generated Space (G)	Actual Inventory (I)	% I/G	Generated Space (G)	Actual Inventory (I)	% I/G	Generated Space (G)	Actual Inventory (I)	% I/G
1	Classroom Facilities	298,551	247,913	83.0%	289,183	260,194	90.0%	329,986	265,015	80.3%	416,291	324,465	77.9%
2	Class Lab	358,283	321,919	89.9%	370,708	323,541	87.3%	408,197	323,384	79.2%	501,137	340,900	68.0%
3	Lab - Research Facilities	391,027	335,255	85.7%	409,887	345,767	84.4%	454,829	367,422	80.8%	557,159	430,612	77.3%
4	Academic Office and Related	514,831	457,342	88.8%	507,443	490,985	96.8%	603,847	519,890	86.1%	696,704	585,085	84.0%
10	Administrative Office and Related	165,790	192,525	116.1%	148,131	200,089	135.1%	158,817	196,723	123.9%	212,387	219,055	103.1%
4 & 10	*Total Office Space*	*680,621*	*649,867*	*95.5%*	*655,574*	*691,074*	*105.4%*	*762,665*	*716,613*	*94.0%*	*909,091*	*804,140*	*88.5%*
4.5 & 10.2	*Total Office Support Space*	*157,066*	*149,422*	*95.1%*	*151,286*	*173,407*	*114.6%*	*176,000*	*174,991*	*99.4%*	*209,780*	*200,690*	*95.7%*
5	Campus Study Space & Library Facilities	423,698	318,214	75.1%	466,966	325,471	69.7%	534,670	343,363	64.2%	549,079	368,804	67.2%
6	Recreation/Athletics	242,913	168,970	69.6%	234,887	177,215	75.4%	256,453	186,153	72.6%	321,603	202,931	63.1%
7-9, 11-15	Other *	548,808	406,136	74.0%	535,864	425,966	79.5%	593,958	411,604	69.3%	740,820	444,609	60.0%
Total - Formula Areas		2,943,901	2,448,274	83.2%	2,963,069	2,549,228	86.0%	3,340,758	2,613,554	78.2%	3,995,180	2,916,461	73.0%

The above shows a breakdown between academic and administrative office space and support space. There is a deficiency in academic space - both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes: conference rooms, reference libraries, file rooms, vaults, photocopy rooms, computer rooms, waiting and reception areas, interview rooooms, storage areas, lunch rooms and departmental lounges.

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space and Assembly/Exhibition Facilities.

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,and 12. For more details see NOTES section on pages 23 and 24.

Table H

Ratio of ACTUAL Inventory to GENERATED Space (NASM) by Formula Space Classification, 1977-78 to 2004-05

Cat. #	Space Classification	1977-78	1980-81	1983-84	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
1	Classroom Facilities	102	102	91	89	85	83	89	90	80	78
2	Class Lab	104	100	98	96	95	90	91	87	79	68
3	Lab - Research Facilities	90	93	89	92	89	86	84	84	81	77
4	Academic Office and Related	104	107	107	87	82	89	93	97	86	84
10	Administrative Office	95	97	91	100	111	116	130	135	124	103
4 and 10	*Total Office Space*	*n/a*	*n/a*	*n/a*	*94*	*89*	*95*	*102*	*105*	*94*	*89*
5.	Campus Study Space & Library Facilities	89	87	79	81	75	75	76	70	64	67
6	Recreation/Athletics	79	87	84	82	78	70	76	75	73	63
7-9, 11-15	Other *	96	95	83	83	76	74	78	79	69	60
Total - Formula Areas		96	96	90	88	84	83	87	86	78	73

The above shows a breakdown between academic and administrative office space and support space. There is a deficiency in academic space - both office and support space. For administrative space, the office space is sufficient according to the COU space standards, but the support space is twice what it should be. By definition, administrative support space includes conference rooms, reference libraries, file & Computer rooms, vaults, photocopy rooms, waiting & reception areas, interview roooms, storage areas, lunch rooms and departmental lounges.

* Includes Food Service, Bookstore & Merch. Facilities, Plant Maintenance, Audio-Visual Television Facilities, Central Services, Health Service Facilities, Student Activity Space, and Assembly/Exhibition Facilities.

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,and 12. For more details see NOTES section on pages 23 and 24.

Table I

Historical Summary of Statistics
1986-87 to 2004-05

	1986-87	1989-90	1992-93	1995-96	1998-99	2001-02	2004-05
Undergraduate FTE Enrolment per Graduate FTE Enrolment	8.80	8.76	8.19	7.87	7.66	7.76	8.13
WSCH[1] per Undergraduate FTE Enrolment	3.38	3.23	4.18	2.98	3.10	3.09	2.95
Classroom NASM[2] per FTE Student	1.07	1.02	1.00	1.06	1.08	0.99	0.96
Academic Dept Office NASM[4] per FTE Faculty	24.20	29.39	32.74	35.22	38.58	38.83	36.79
Graduate NASM per FTE Graduate Student	2.60	2.39	2.41	2.48	2.38	2.39	2.22
Research Space per FTE Faculty	24.32	24.04	24.00	25.92	27.17	27.44	27.07
Administrative NASM per FTE Non-Academic Office Staff	n/a	18.73	19.62	21.97	22.83	20.93	20.11
Campus Study Space and Library Facilities[3] NASM per FTE Student	1.37	1.30	1.28	1.36	1.35	1.28	1.09
Athletics/Recreation NASM per FTE Student	0.80	0.74	0.68	0.75	0.74	0.69	0.60
Maintenance NASM per Total Inventory NASM	0.015	0.015	0.015	0.014	0.015	0.013	0.013
Student Services NASM per FTE Student	1.62	1.46	1.43	1.53	1.55	1.34	1.16
Total NASM per FTE Student (categories 1-15)	10.95	10.23	9.84	10.48	10.58	9.74	8.62

[1] WSCH = Weekly Student Contact Hours

[2] NASM = Net Assignable Square Metres

[3] Prior to 2001-02 the figures exclude student computer space

[4] Includes faculty offices, other academic appointments offices, graduate student offices, departmental support staff offices and office support space

CAUTION: Between 2001 and 2004 there were changes in classification for Space Categories 4,5,10,and 12. For more details see NOTES section on pages 23 and 24.

HIGHLIGHTS (Figures)

Figure 1 – Actual Inventory (NASM) / Generated Space by Functional Areas (with NASM for each functional area), 2004-05

This figure shows the ratio between actual and generated space in major COU formula categories. The amount of space devoted to each category is also shown.

In the major academic areas - *Classrooms* and *Research* - the shortfall is about 20%. For Class Labs the shortfall is over 30%.
Also, *Campus Study Space & Library Facilities*. and student support functions – *Athletic / Recreation and Other (Student & Central Services)* – actual inventory is less space than is generated.

Therefore, universities' limited resources are being efficiently used in direct support of core teaching and research functions.

Figure 2 – Functional Breakdown of Formula Space Usage, 2004-05

This figure shows a breakdown of inventory in the COU formula categories (1 to 15). The diversity of university activity is reflected in the relative portions of the space categories.

Over 60% of the total formula space is accounted for by primary academic facilities *(Lab-Research, Study Space & Library Facilities, Lab-Undergraduate, Academic Office, and Classrooms*).

Academic and Administrative office space has been subdivided into three categories to show the differences in the types of activities in these two categories.

- *Academic Office* (4) includes faculty offices (4.1), other academic appointments (4.2), and graduate student offices (4.3).
- *Non-Academic Office* (4 and 10) includes academic departmental support staff offices (4.4) and administrative office areas (10.1).
- *Office Support* (4 and 10) includes academic office support space (4.5) and administrative office support areas (10.2).

Figure 3 – Percentage Distribution of ACTUAL Space Inventory (NASM) Usage for Formula Areas, 1977-78 to 2004-05

This figure reflects the actual space inventory in the COU formula categories (1 to 15). The formula categories provide for the full range of functions and services needed in a contemporary university. These categories were then aggregated into eight (8) functional groups.

Changes in the relative proportions are due to: (1) the inclusion of the federated / affiliated institutions in 1992-93, (2) the building of new facilities, and (3) the reallocation of space.

Figure 4 - % Actual Inventory / Generated Inventory by Selected Functional Area, 1977-78 to 2004-05

This figure compares the ratio of generated space to actual inventory in selected functional areas, and highlights the space "need" in the Ontario university "system".
The time series showing *Administrative* and *Academic* space start in 1986-87, due to the change in definition of input measures commencing in 1986-87.

The % I/G for Class Labs continued to decline; in particular between 2001 and 2004 where the ratio declined over 10%. This decline can be explained by (1) insufficient new labs built to accommodate the enrolment increase, (2) a change in reporting class labs / library, and (3) conversion of class labs to research labs.

The % I/G for administrative office space, in particular, is due to a change in the percentage of space allocated for administrative and academic support space commencing in 2004.

The slight increase in the % I/G figure for Campus Study Space & Library Facilities between 2001 and 2004 can be attributed to changes made to study and stack space. See page 17 for more details.

The % I/G for Recreation/Athletic decreased by 10% between 2001 and 2004 due to the increase in FTE enrolment, and not a comparable increase in space.

Figure 5 – Total Actual Inventory / Generated Inventory and Average Age of Buildings

This figure shows the total actual inventory compared to the total generated inventory from 1977-78 to 2004-05.

In all years, the ratio is less than 100, indicating a shortfall of adequate space in the university "system". Between 1998-99 and 2004-05 the ratio declined dramatically due to the double cohort.

The average age of buildings for all Ontario universities system has increased from 14.6 years in 1977-78 to 32.5 years in 2004-05.

However, between 2001-02 and 2004-05 there has been no change in building age, due to an infusion of capital money from SuperBuild. However, if the buildings built since 2001-02 are excluded, the average age is 36.

Figure 6 – Total Formula Area (NASM) / FTE Students, 1977-78 to 2004-05

This figure compares actual space compared to generated space for the years 1977-78 to 2004-05, and the ratio between total formula areas and FTE students. The graph shows that the gap between the actual space that the institutions have and the space that they should have according to the COU space factor is widening over time. For example, in 1977-78 the gap between actual space per student was only 0.5 NASM; by 2004 the gap increased to 3.1 NASM, especially since 1998-99 when the gap increased from 1.7 to 3.1.

Figure 7 – Allocation of NASM per FTE Student by Space Category – Generated and Actual Space, 2004-05

This pie chart shows the distribution of generated NASM per FTE Student (11.7 NASM) and actual NASM per FTE Student (8.6 NASM) by space category.

Figure 1

Actual Inventory (NASM) / Generated Space by Functional Areas (with NASM for each functional area), 2004-05

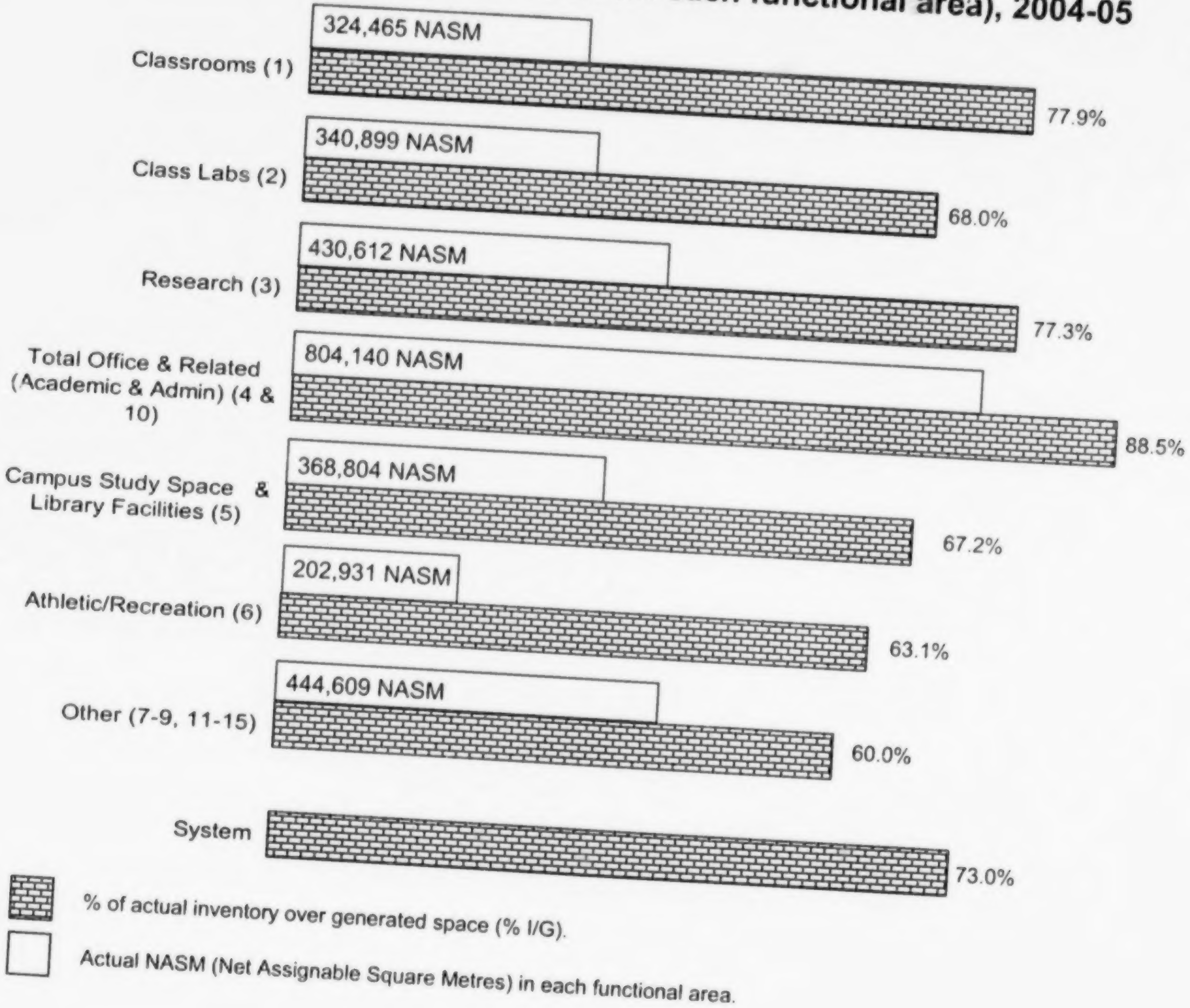
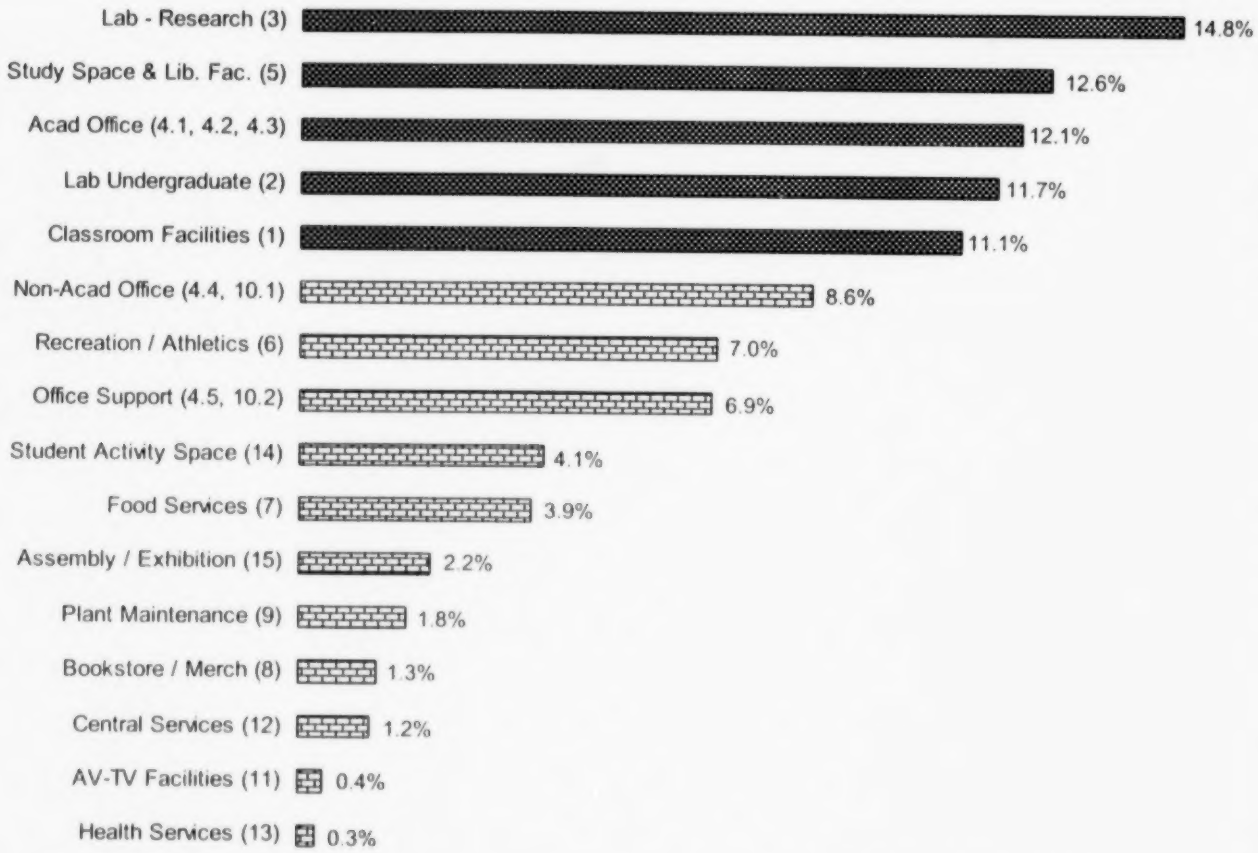


Figure 2

Functional Breakdown of Formula Space* Usage, 2004-05



* Formula space is usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary university.

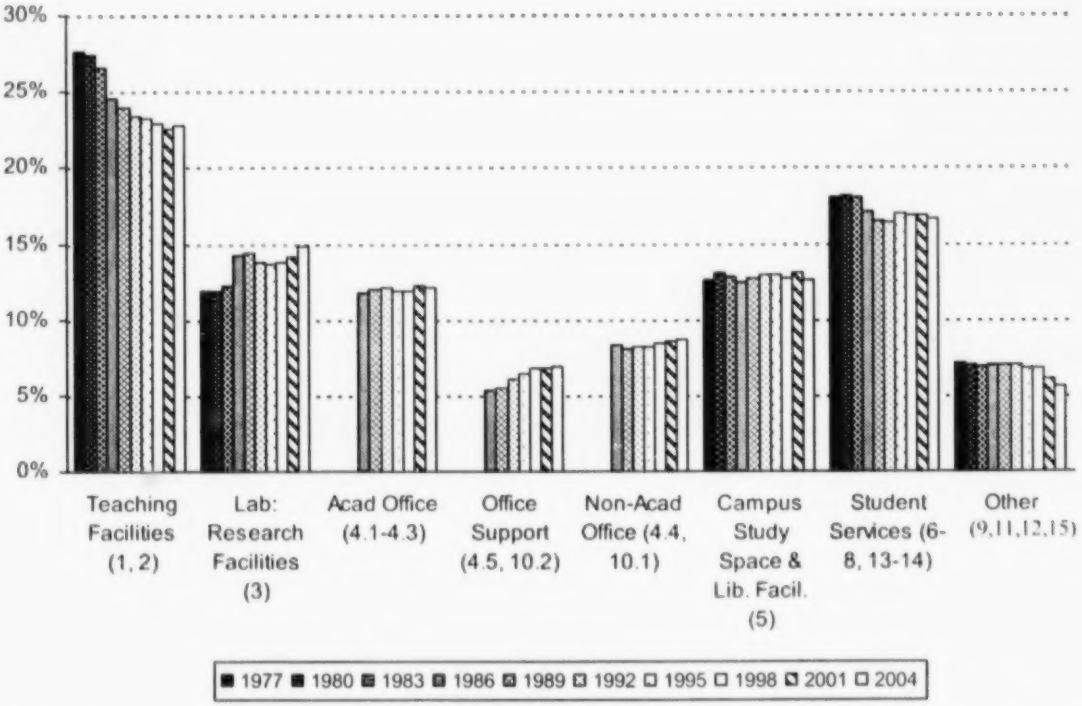
The first five categories refer to primary academic facilities.

The figures in brackets refer to the space category.

Total Formula Space = 2,916,377 NASM.

Figure 3

Percentage Distribution of ACTUAL Space Inventory (NASM) Usage for Formula Areas, 1977-78 to 2004-05



* Formula space is usable or assignable space for which space standards could normally be developed.

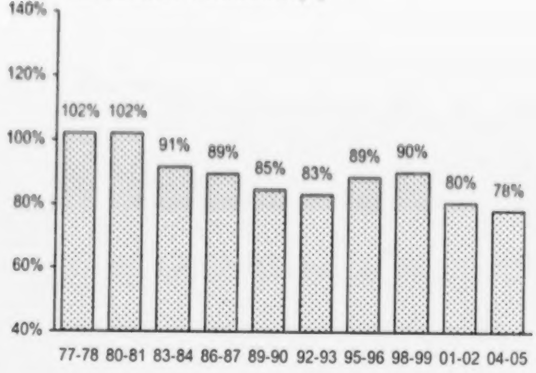
Teaching Facilities: Classroom and Lab Undergraduate
Student Services: Athletic/Recreation, Food Service, Bookstore, Health Service Facilities, Common Use/Student Activity
Other: AV/TV, Assembly/Exhibition Facilities, Plant Maintenance, Central Services

Prior to 1986-87, data not available for Acad. Office, Office Support and Non-Acad. Office.

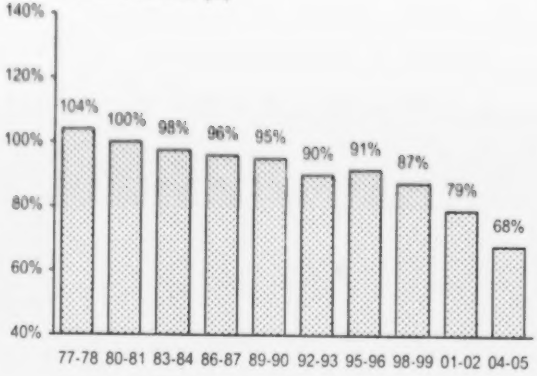
Figure 4

% Actual Inventory / Generated Space by Selected Functional Area
1977-78 to 2004-05

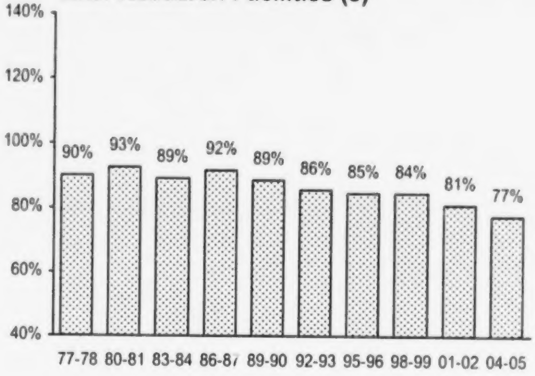
Classroom Facilities (1)



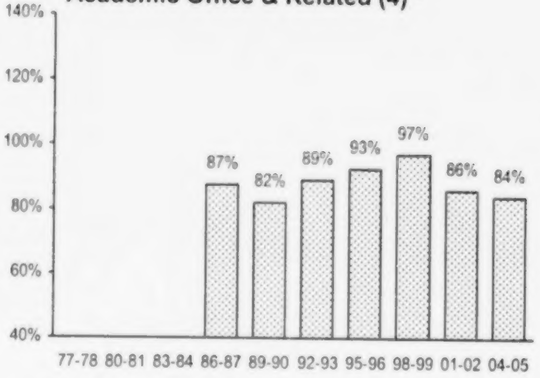
Class Labs (2)



Lab: Research Facilities (3)



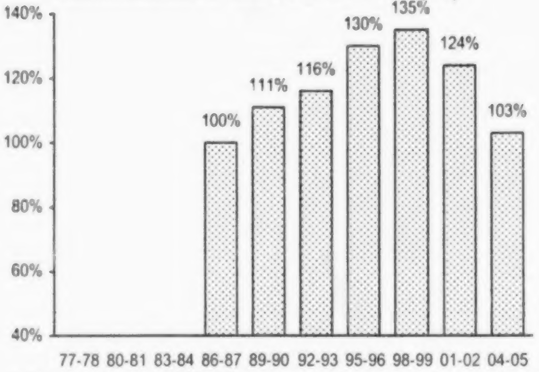
Academic Office & Related (4) *



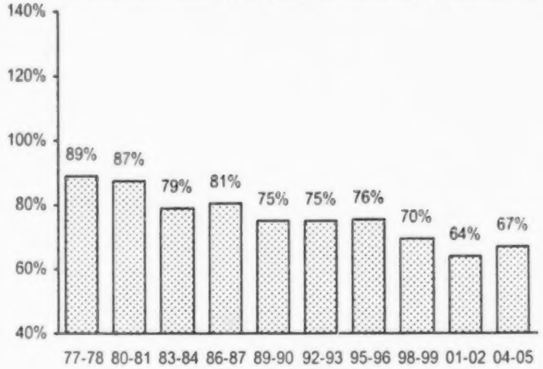
* Commencing in 1986-87, the input measure and space factor changed, so comparisons prior to 1986-87 are not possible.

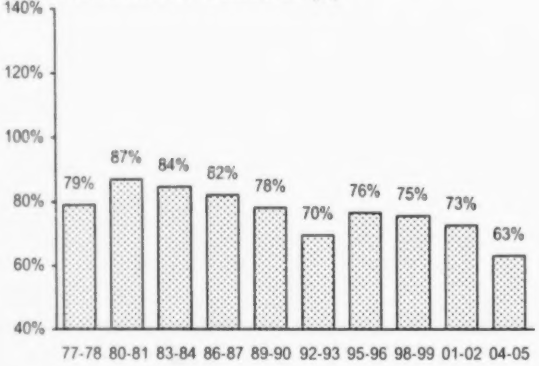
Figure 4 (cont'd)

% Actual Inventory / Generated Space by Selected Functional Area
1977-78 to 2004-05


Administrative Office & Related (10) *

* Commencing in 1986-87, the input measure and space factor changed, so comparisons prior to 1986-87 are not possible.


Campus Study Space & Library Facilities (5)


Recreation / Athletics (6)

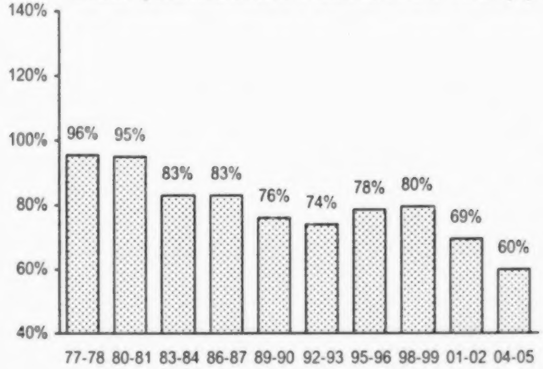
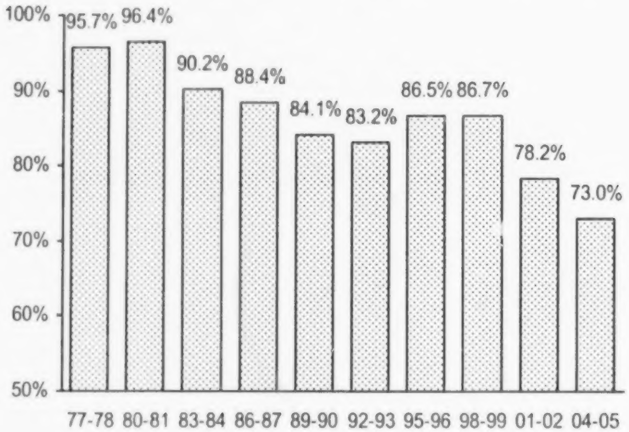

Other (Maintenance / Student Services) (7-9, 11-15)

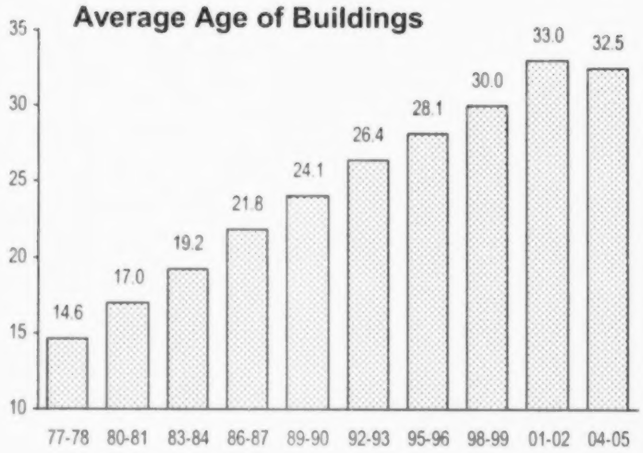
Figure 5

Total Actual Inventory / Generated Inventory and Average Age of Buildings
1977-78 to 2004-05



Total Actual Inventory / Generated Inventory

Year	Actual Inventory	Generated Inventory
1977-78	1,930,691	2,017,076
1980-81	1,977,456	2,051,750
1983-84	2,032,624	2,253,041
1986-87	2,111,683	2,389,252
1989-90	2,201,474	2,616,335
1992-93	2,448,275	2,943,901
1995-96	2,525,555	2,918,549
1998-99	2,549,230	2,963,070
2001-02	2,613,557	3,340,758
2004-05	2,916,460	3,995,180



Average Age of Buildings

Figure 6

Total Formula Area (NASM) / FTE Students
1977-78 to 2004-05

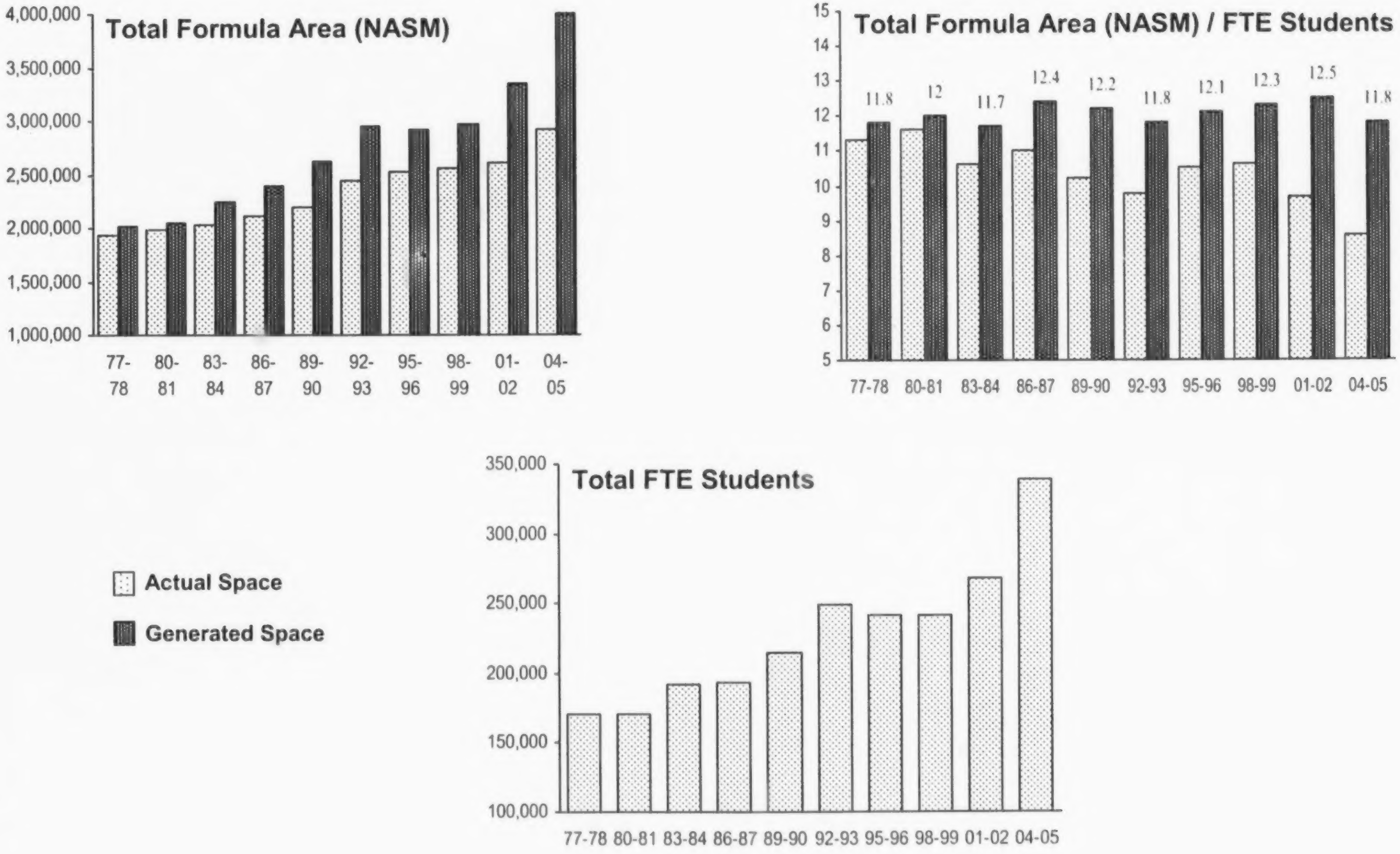
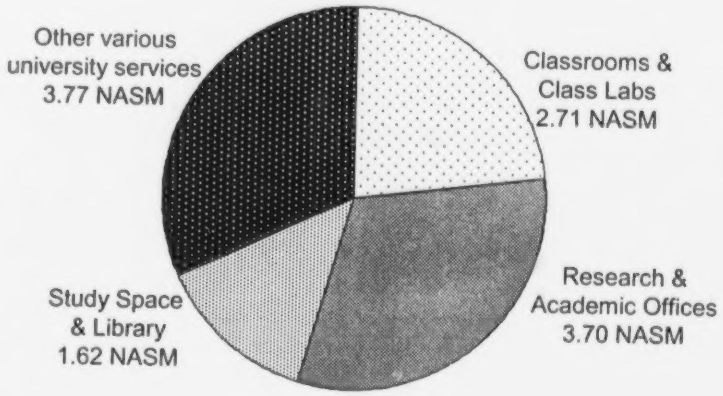


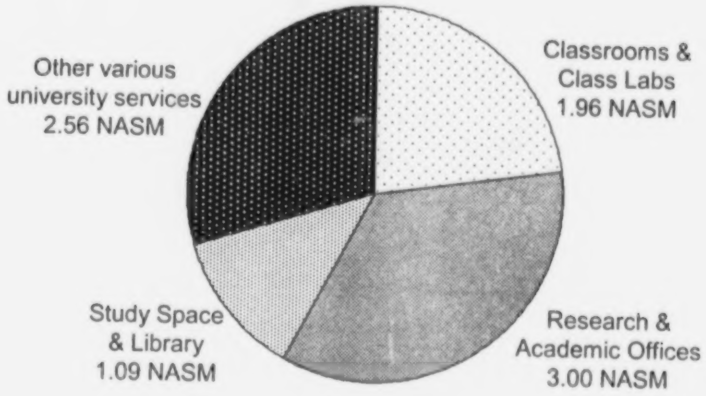
Figure 7

Allocation of NASM per FTE Student by Space Category – Generated and Actual Space 2004-05

Generated Space: 11.8 NASM per FTE Student



Actual Space: 8.6 NASM per FTE Student



	Actual Inventory	Generated Inventory
Classrooms and Class Labs	665,364	917,428
Research and Academic Offices	1,015,697	1,253,862
Campus Study Space & Lib Facilities	368,804	549,079
Other various University services	866,595	1,274,810

Section 3

INSTITUTIONAL TABLES

(as a result of the 2004-05 survey)

In interpreting the data from smaller and specialized institutions, it should be noted that the Building Blocks formula was developed for institutions having a full range of university programs and functions. The application of all 15 categories to a very small or special purpose institution may not be appropriate, so results must be interpreted with caution. The same considerations apply in the formula for analysis at the departmental level within an institution.

Notes on Institutional Tables 4 through 40

Note that the figures in the "2001-02 % I/G" column may not necessarily agree with the figures reported in the 2001-02 report. Where possible, the figures have been changed to make them comparable with the 2004-05 figures.

- Total Academic Office: the space factor has been changed,

- Total Admin Office: the space factor for office service has been changed,

- Study Space: the space factor is the same for all students (0.6 NASM),

- Stack Space: (1) the % of volumes in compact storage has been changed from 10% for all institutions to the actual %. It was assumed that the same percentage applies in 2001 as in 2004.

  (2) The equivalent volume figure for bound serial volumes was changed from 50 to 125.

The following table shows the change in the 2001-02 % I/G

	As Reported in 2001-02 Report	As Reported in 2004-05 Report
OFFICE – ACADEMIC Office Service	77.7%	93.3%
Total Academic Office	86.1%	89.5%
OFFICE – ADMINISTRATIVE Office Service	182.0%	109.2%
Total Admin. Office	123.9%	107.4%
Total Office	94 0%	93.8%
CAMPUS STUDY SPACE & LIB FACILITIES Total Study and Student Computer Rooms	60.9%	56.6%
Total Stack	63.7%	81.8%
Library Support	70.7%	79.5%
Total Campus Study Space & Library Facilities	64.2%	71.9%
TOTAL FORMULA AREAS	78.2%	79.6%

Commencing with the 2004-05 report, the 15 formula space categories have been divided into two sections:

(1) Research/Teaching/Academic Support consists of Classrooms, Class Labs, Research, Office (academic and administration) and Campus Study Space & Library Facilities.

(2) Other (or Student Experience) Space consists of Recreation/Athletics, Maintenance Shops and Student and Central Services.

Tables 38 and 39 contains a summary of these two new sections.

Table 1

Inventory of University Space, November 1, 2004

Institution	Categories 1-15 (NASM)	Category 16 (SM)	Categories 17-20 (NASM)	Scheduled for Demolition	Rentals	Gross Square Metres	Gross Sq. Metres / NASM (1-15, 17-20)
Brock	80,051.16	57,613.33	45,376.80	0.00	1,366.05	203,614.27	1.62
Carleton	136,528.15	114,896.96	53,771.12	0.00	0.00	347,050.00	1.82
Guelph	197,872.82	141,932.18	132,829.03	0.00	0.00	563,769.22	1.70
Lakehead	60,920.80	42,449.10	35,867.00	100.90	0.00	164,244.30	1.70
Laurentian	58,692.83	34,234.16	24,913.44	0.00	775.14	137,397.79	1.64
Laurentian (Algo)	8,571.40	1,447.70	3,510.90	190.80	0.00	16,334.80	1.35
Laurentian (Hear)	4,391.79	1,693.76	1,495.75	0.00	1,102.50	7,581.30	1.29
McMaster	213,440.74	125,945.91	114,419.28	0.00	8,320.77	531,842.52	1.62
Nipissing	19,212.51	9,451.24	25,675.00	0.00	0.00	54,338.75	1.21
OCAD	17,460.16	8,531.09	195.99	0.00	3,196.64	29,269.81	1.66
UOIT	18,322.00	5,281.00	5,910.00	0.00	0.00	29,336.00	1.21
Ottawa	197,102.20	162,985.04	69,723.90	1,359.86	1,181.11	487,998.25	1.83
Queen's	221,784.63	159,901.59	95,790.91	0.00	0.00	567,838.68	1.79
Ryerson	123,422.40	43,132.40	24,702.70	0.00	2,507.10	263,795.10	1.78
Toronto (St. Grge)	497,869.98	374,533.23	137,096.34	0.00	3,591.99	1,186,593.00	1.87
Toronto (Miss)	44,577.56	51,936.55	27,904.30	0.00	0.00	140,795.00	1.94
Toronto (Scar)	40,067.15	31,277.16	17,331.01	498.56	0.00	102,738.00	1.79
Trent	47,212.71	32,395.07	20,742.06	0.00	4,402.00		
Waterloo	220,539.98	152,577.75	135,303.68	0.00	1,215.62	578,981.09	1.63
Western	279,394.04	166,876.00	173,859.06	0.00	0.00	708,974.00	1.56
WLU	73,438.21	53,969.26	62,092.81	0.00	0.00	258,509.00	1.91
Windsor	115,020.38	61,705.56	29,434.64	0.00	404.78	233,989.62	1.62
York (Keele)	224,831.36	251,533.70	98,955.90	0.00	7,519.05	707,332.50	2.18
York (Glen)	15,683.80	12,531.80	8,011.00	0.00	0.00	42,072.70	1.78
TOTAL	2,916,408.76	2,098,831.53	1,344,912.62	2,150.12	35,582.74	7,364,395.91	1.76

The inventory NASM figures for categories 1-15, 16 and 17-20 may not necessarily agree at some institutions with the inventory figures reported on Table 2.

Table 2

Distribution of Actual Inventory by Major Space Category and Institution, 2004-05

	Classroom Facilities (1)	Lab Undergrad (2)	Lab Grad & Faculty (3)	Acad Office & Related (4)	Campus Study Space & Lib Facilities (5)	Recreation/ Athletic Space (6)	Food Service (7)	Bookstore & Merch Facilities (8)	Plant Mainten-ance (9)	Admin Office & Related (10)	AV / TV Facilities (11)	Central Services (12)
Brock	10,841	6,740	6,975	12,858	8,164	11,226	4,588	1,306	1,224	6,872	487	974
Carleton	15,013	18,351	13,938	29,358	15,187	13,768	6,201	2,012	2,035	10,560	1,537	1,536
Guelph	14,841	24,934	47,105	34,322	14,792	19,161	8,222	1,671	5,065	17,904	292	2,356
Lakehead	7,562	12,182	5,198	8,082	7,318	5,159	2,997	623	1,153	4,154	449	1,740
Laurentian	6,551	6,900	6,315	9,343	8,180	6,413	2,750	782	1,565	4,366	369	1,000
Laurentian (Algo)	820	674	69	539	1,578	3,261	162	81	341	513	0	28
Laurentian (Hear)	774	713	14	469	540	553	266	23	191	218	61	0
McMaster	21,324	19,761	44,627	41,002	26,089	9,303	7,907	1,874	4,979	13,821	941	3,053
Nipissing	3,628	3,376	598	2,224	2,200	2,549	1,036	0	0	1,804	230	586
OCAD	1,356	8,948	28	1,316	962	0	67	655	184	1,675	151	252
UOIT	2,602	3,110	1,688	2,173	3,621	1,282	796	157	916	821	23	101
Ottawa	22,522	19,537	28,861	45,314	24,673	14,310	4,792	1,930	2,846	17,124	722	1,513
Queen's	18,046	23,731	38,045	54,165	30,642	14,016	8,135	3,206	2,089	13,193	123	1,350
Ryerson	17,304	33,562	9,050	16,889	9,437	6,158	4,351	1,287	2,389	12,643	969	1,285
Toronto (St.Grge)	47,093	44,689	91,729	117,548	87,245	24,268	13,978	3,407	7,871	22,587	862	3,858
Toronto (Miss)	6,806	6,590	6,964	6,786	4,779	2,406	2,833	465	671	2,586	44	995
Toronto (Scar)	5,429	4,516	4,496	5,491	6,034	4,171	2,132	340	645	2,707	365	944
Trent	7,435	3,781	4,639	7,216	7,241	3,891	3,371	455	423	5,492	127	319
Waterloo	20,193	25,120	41,573	43,443	20,064	12,959	9,972	4,206	6,367	18,886	522	5,289
Western	36,725	32,197	39,396	58,496	34,645	16,024	10,984	3,801	5,705	21,561	843	4,120
WLU	11,184	5,152	4,703	11,252	10,933	6,499	2,922	1,010	1,144	8,671	545	765
Windsor	11,667	15,748	14,104	19,625	16,636	10,271	5,031	2,248	1,570	8,014	1,658	1,085
York (Keele)	32,419	19,940	20,310	54,008	26,003	12,438	10,397	5,869	3,788	21,832	1,068	1,657
York (Glen)	2,331	650	187	3,147	1,842	2,846	1,109	285	300	1,051	16	182
TOTAL	324,465	340,900	430,612	585,085	368,804	202,931	114,999	37,693	53,462	219,055	12,403	34,989

Table 2 (cont'd)

Distribution of Actual Inventory by Major Space Category and Institution, 2004-05

	Health Service Facilities (13)	Student Activity Space (14)	Assembly, Exhibition Facilities (15)	Subtotal Formula Areas (1 to 15)	Residential Space (17)	Animal Space (18)	Other (19)	Health Sci Clinical Facilities (20)	Subtotal Non-Formula (17 to 20)	Non-Assignable (16)	Total (1 to 20)
Brock	343	2,108	5,343	80,051	44,872	79	426	0	45,377	57,613	183,041
Carleton	531	4,584	1,917	136,528	47,458	389	5,924	0	53,771	114,897	305,196
Guelph	659	3,122	3,429	197,873	110,094	3,108	11,989	7,638	132,829	141,932	472,634
Lakehead	225	2,805	1,274	60,921	30,218	0	5,649	0	35,867	42,449	139,237
Laurentian	42	2,737	1,381	58,693	21,809	194	2,911	0	24,913	34,234	117,840
Laurentian (Algo)	0	359	337	8,762	2,923	0	588	0	3,511	1,448	13,721
Laurentian (Hear)	0	433	115	4,391	341	0	1,155	0	1,496	1,694	7,581
McMaster	1,773	13,370	3,618	213,441	52,612	1,365	1,603	58,840	114,419	125,946	453,806
Nipissing	0	983	0	19,213	25,653	22	0	0	25,675	9,451	54,339
OCAD	105	881	880	17,460	0	0	196	0	196	8,531	26,187
UOIT	16	1,048	0	18,353	5,910	0	0	0	5,910	5,281	29,544
Ottawa	1,266	8,744	2,947	197,102	62,806	1,082	5,836	0	69,724	162,985	429,811
Queen's	1,107	7,770	6,167	221,785	89,184	1,373	5,233	0	95,791	159,902	477,477
Ryerson	104	5,555	2,437	123,418	18,615	0	6,281	0	24,896	43,408	191,721
Toronto (St.Grge)	1,317	17,651	13,768	497,870	91,322	0	36,023	9,752	137,096	374,533	1,009,500
Toronto (Miss)	127	1,657	869	44,578	26,818	0	1,086	0	27,904	51,937	124,418
Toronto (Scar)	196	1,883	717	40,067	16,330	0	1,001	0	17,331	31,277	88,675
Trent	121	2,701	0	47,212	19,312	354	1,076	0	20,742	32,395	100,349
Waterloo	462	8,343	2,982	220,381	132,589	0	1,792	922	135,304	152,578	508,262
Western	1,088	8,465	5,343	279,393	162,396	1,401	7,665	2,397	173,859	166,877	620,129
WLU	219	5,149	3,284	73,435	60,122	0	1,971	0	62,093	53,969	189,497
Windsor	295	5,806	1,263	115,020	28,951	0	484	0	29,435	61,720	206,175
York (Keele)	12	10,896	4,196	224,831	96,883	0	2,073	0	98,956	251,534	575,320
York (Glen)	0	1,139	600	15,684	7,445	0	566	0	8,011	12,532	36,226
TOTAL	10,008	118,190	62,865	2,916,461	1,154,665	9,366	101,526	79,549	1,345,105	2,099,122	6,360,688

Table 2A

Percent Distribution of Actual Inventory by Major Formula Space Category and Institution, 2004-05

	Classroom Facilities (1)	Lab Undergrd (2)	Lab Grad & Faculty (3)	Acad Office & Related (4)	Campus Study Spce & Lib Facilities (5)	Recreatn/ Athletic Space (6)	Food Service (7)	Bookstore & Merch Facilities (8)	Plant Mainten-ance (9)	Admin Office & Related (10)	AV / TV Facilities (11)	Central Services (12)	Health Service Facilities (13)	Student Activity Space (14)	Assembly & Exhibitn Facilities (15)	Formula Areas (1 to 15)
Brock	14%	8%	9%	16%	10%	14%	6%	2%	2%	9%	1%	1%	0%	3%	7%	100%
Carleton	11%	13%	10%	22%	11%	10%	5%	1%	1%	8%	1%	1%	0%	3%	1%	100%
Guelph	8%	13%	24%	17%	7%	10%	4%	1%	3%	9%	0%	1%	0%	2%	2%	100%
Lakehead	12%	20%	9%	13%	12%	8%	5%	1%	2%	7%	1%	3%	0%	5%	2%	100%
Laurentian	11%	12%	11%	16%	14%	11%	5%	1%	3%	7%	1%	2%	0%	5%	2%	100%
Laurentian (Algo)	9%	8%	1%	6%	18%	37%	2%	1%	4%	6%	0%	0%	0%	4%	4%	100%
Laurentian (Hear)	18%	16%	0%	11%	12%	13%	6%	1%	4%	5%	1%	0%	0%	10%	3%	100%
McMaster	10%	9%	21%	19%	12%	4%	4%	1%	2%	6%	0%	1%	1%	6%	2%	100%
Nipissing	19%	18%	3%	12%	11%	13%	5%	0%	0%	9%	1%	3%	0%	5%	0%	100%
OCAD	8%	51%	0%	8%	6%	0%	0%	4%	1%	10%	1%	1%	1%	5%	5%	100%
UOIT	14%	17%	9%	12%	20%	7%	4%	1%	5%	4%	0%	1%	0%	6%	0%	100%
Ottawa	11%	10%	15%	23%	13%	7%	2%	1%	1%	9%	0%	1%	1%	4%	1%	100%
Queen's	8%	11%	17%	24%	14%	6%	4%	1%	1%	6%	0%	1%	0%	4%	3%	100%
Ryerson	14%	27%	7%	14%	8%	5%	4%	1%	2%	10%	1%	1%	0%	5%	2%	100%
Toronto (St.Grge)	9%	9%	18%	24%	18%	5%	3%	1%	2%	5%	0%	1%	0%	4%	3%	100%
Toronto (Miss)	15%	15%	16%	15%	11%	5%	6%	1%	2%	6%	0%	2%	0%	4%	2%	100%
Toronto (Scar)	14%	11%	11%	14%	15%	10%	5%	1%	2%	7%	1%	2%	0%	5%	2%	100%
Trent	16%	8%	10%	15%	15%	8%	7%	1%	1%	12%	0%	1%	0%	6%	0%	100%
Waterloo	9%	11%	19%	20%	9%	6%	5%	2%	3%	9%	0%	2%	0%	4%	1%	100%
Western	13%	12%	14%	21%	12%	6%	4%	1%	2%	8%	0%	1%	0%	3%	2%	100%
WLU	15%	7%	6%	15%	15%	9%	4%	1%	2%	12%	1%	1%	0%	7%	4%	100%
Windsor	10%	14%	12%	17%	14%	9%	4%	2%	1%	7%	1%	1%	0%	5%	1%	100%
York (Keele)	14%	9%	9%	24%	12%	6%	5%	3%	2%	10%	0%	1%	0%	5%	2%	100%
York (Glen)	15%	4%	1%	20%	12%	18%	7%	2%	2%	7%	0%	1%	0%	7%	4%	100%
TOTAL	11%	12%	15%	20%	13%	7%	4%	1%	2%	8%	0%	1%	0%	4%	2%	100%

Table 2B

Percent Distribution of Actual Inventory by Major Space Category and Institution, 2004-05

		Non-Formula						
	Formula (1 to 15)	Residential Space (17)	Animal Space (18)	Other (19)	Hlth Sci Clin Facil. (20)	***Non-Formula*** (17 to 20)	***Non-Assignable*** (16)	***Total*** (1 to 20)
Brock	44%	25%	0%	0%	0%	25%	31%	100%
Carleton	45%	16%	0%	2%	0%	18%	38%	100%
Guelph	42%	23%	1%	3%	2%	28%	30%	100%
Lakehead	44%	22%	0%	4%	0%	26%	30%	100%
Laurentian	50%	19%	0%	2%	0%	21%	29%	100%
Laurentian (Algo)	64%	21%	0%	4%	0%	26%	11%	100%
Laurentian (Hear)	58%	4%	0%	15%	0%	20%	22%	100%
McMaster	47%	12%	0%	0%	13%	25%	28%	100%
Nipissing	35%	47%	0%	0%	0%	47%	17%	100%
OCAD	67%	0%	0%	1%	0%	1%	33%	100%
UOIT	62%	20%	0%	0%	0%	20%	18%	100%
Ottawa	46%	15%	0%	1%	0%	16%	38%	100%
Queen's	46%	19%	0%	1%	0%	20%	33%	100%
Ryerson	64%	10%	0%	3%	0%	13%	23%	100%
Toronto (St.Grge)	49%	9%	0%	4%	1%	14%	37%	100%
Toronto (Miss)	36%	22%	0%	1%	0%	22%	42%	100%
Toronto (Scar)	45%	18%	0%	1%	0%	20%	35%	100%
Trent	47%	19%	0%	1%	0%	21%	32%	100%
Waterloo	43%	26%	0%	0%	0%	27%	30%	100%
Western	45%	26%	0%	1%	0%	28%	27%	100%
WLU	39%	32%	0%	1%	0%	33%	28%	100%
Windsor	56%	14%	0%	0%	0%	14%	30%	100%
York (Keele)	39%	17%	0%	0%	0%	17%	44%	100%
York (Glen)	43%	21%	0%	2%	0%	22%	35%	100%
TOTAL	46%	18%	0%	2%	1%	21%	33%	100%

Table 3

Age Profile of Ontario University Space
(as of 1 November, 2004) *

Institution	0-9 Years (NASM)	10-19 Years (NASM)	20-29 Years (NASM)	30-39 Years (NASM)	40-49 Years (NASM)	50+ Years (NASM)	Total (NASM)	Weighted Average Age
Brock	11,058	6,072	4,051	49,972	5,618	1,914	78,685	31.1
Carleton	16,433	27,595	3,839	60,230	28,431	0	136,528	28.3
Guelph	16,975	20,734	6,159	78,317	31,267	44,422	197,873	42.3
Lakehead	6,075	6,041	104	32,389	16,083	228	60,921	32.0
Laurentian	515	8,914	486	20,829	27,086	88	57,918	33.9
Laurentian (Algo)	465	5,137	0	494	0	2,475	8,571	32.8
Laurentian (Hear)	0	0	0	0	3,289	0	3,289	46.0
McMaster	28,734	13,405	7,167	103,987	37,954	13,873	205,120	31.8
Nipissing	8,463	2,136	0	8,614	0	0	19,213	17.0
OCAD	9,485	0	0	0	3,735	1,043	14,263	18.5
UOIT	16,754	0	1,568	0	0	0	18,322	2.1
Ottawa	27,962	10,901	30,231	68,645	24,727	33,455	195,921	36.4
Queen's	42,386	26,789	22,898	85,693	33,720	10,299	221,785	28.3
Ryerson	16,341	11,837	7,846	33,697	30,222	20,972	120,915	36.0
Toronto (St. Grge)	42,326	46,718	41,994	168,326	97,391	97,523	494,278	40.5
Toronto (Miss)	8,268	1,811	0	34,499	0	0	44,578	26.6
Toronto (Scar)	10,992	328	273	28,474	0	0	40,067	24.1
Trent	8,451	5,760	3,321	24,323	0	956	42,811	26.5
Waterloo	15,811	25,124	15,902	104,341	57,391	756	219,324	31.6
Western	28,209	69,411	11,434	137,533	8,276	24,531	279,394	28.5
WLU	21,548	8,946	21,720	13,539	6,325	1,360	73,438	20.5
Windsor	9,373	12,717	13,782	45,957	25,202	7,585	114,616	32.1
York (Keele)	37,762	36,048	2,429	141,073	0	0	217,312	25.7
York (Glen)	594	268	0	3	13,392	1,427	15,684	43.7
TOTAL	384,983	346,690	195,202	1,240,933	450,109	262,909	2,880,826	32.5

* Categories 1-15 only, excluding Rentals.

This table shows that the average age of Ontario university buildings is over 30 years, the age when it is generally recognized that major buildin components need to be renewed. The guidelines for reporting of building age in the COU space survey specify that major renovations which substantially renew a building should be reflected in the age reported, but there are some concerns that adjustments are not always done consistently.

Table 4
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

SYSTEM SUMMARY

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT						
CLASSROOMS						
Total FTE Students	338,448.2	1.23	416,291.3	324,465.1	77.9	*80.3*
CLASS LABS						
Lab Contact Hours W	99,562.3	0.8	79,649.8	52,150.1		
Lab Contact Hours X	531,743.2	0.6	319,045.9	219,828.1		
Lab Contact Hours Y	124,821.7	0.5	62,410.9	34,648.3		
Lab Contact Hours Z	133,433.8	0.3	40,030.1	31,010.7		
Unclassified				3,262.2		
Total Class Lab	889,561.0		501,136.8	340,899.3	68.0	*79.2*
RESEARCH						
Research Disciplines A	7,381.2	45.0	332,152.2	255,280.6		
Research Disciplines B	3,875.5	30.0	116,263.5	94,312.6		
Research Disciplines C	2,705.2	20.0	54,104.8	33,682.3		
Research Disciplines D	3,648.3	10.0	36,483.4	27,609.8		
Research Disciplines E	18,154.8	1.0	18,154.8	15,456.7		
Unclassified				4,270.1		
Total Research	35,765.0		557,158.7	430,612.0	77.3	*80.8*
OFFICE - ACADEMIC						
Total FTE Faculty	15,905.3	13.0	206,768.9	269,240.8	96.8	*106.8*
Faculty Supplement	5,488.5	13.0	71,350.0			
Total FTE Grads	37,070.6	4.0	148,282.4	82,346.6	55.5	*59.6*
Total FTE Non-Acd Staff	10,074.0	13.0	130,961.5	109,561.6	83.7	*82.8*
Office Service	557,362.9	0.25	139,340.7	123,935.5	88.9	*93.3*
Total Academic Office			696,703.6	585,084.6	84.0	*89.5*
OFFICE - ADMINISTRATIVE						
Total FTE Non-Acd Staff	10,891.6	13.0	141,591.3	141,522.0	100.0	*106.4*
Office Service	141,591.3	0.5	70,795.7	77,533.0	109.5	*109.2*
Total Admin. Office			212,387.0	219,055.0	103.1	*107.4*
Total Office			909,090.5	804,139.6	88.5	*93.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES						
Study (Total FTE Students)	338,448.2	0.6	203,068.9	93,095.3		
Student Computer Rooms	301,377.6	0.08	24,110.2	23,200.4		
Total Study and Student Computer Rooms			227,179.2	116,295.8	51.2	*56.6*
% of Total Eq. Volumes	n/a		n/a	n/a		
Next 300,000	n/a		n/a	n/a		
Next 300,000	n/a		n/a	n/a		
Remainder	n/a		n/a	n/a		
Total Stack	40,883,940.5		216,906.1	173,564.1	80.0	*81.8*
Library Support	419,975.1	0.25	104,993.8	78,944.5	75.2	*79.5*
Total Campus Study Space & Library Facilities			549,079.0	368,804.4	67.2	*71.9*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**2,932,756.38**	**2,268,920.32**	**77.4**	***82.8***
OTHER SPACE						
RECREATION / ATHLETICS						
Under 4,000 FTE Enrol.	n/a		n/a	n/a		
4,000-8,000 Enrol.	n/a		n/a	n/a		
Total FTE Students	338,448.2	0.9				
Total P.E./Athletics			321,603.4	202,931.4	63.1	*72.6*
MAINTENANCE SHOPS						
Total NASM Inv. (exc. 16.0)	4,261,565.8	0.0	63,923.5	53,462.4	83.6	*90.0*
STUDENT AND CENTRAL SERVICES						
Total FTE Students	338,448.2	2.0	676,896.5	391,146.1	57.8	*67.1*
SUB-TOTAL: OTHER SPACE			**1,062,423.41**	**647,539.91**	**60.9**	***70.3***
TOTAL FORMULA AREAS			**3,995,179.8**	**2,916,460.2**	**73.0**	***79.6***

Table 5
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

BROCK

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	13,667.60	1.23	16,811.15	10,841.04	64.5	77.9	*66.8*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	21,850.00	0.6	13,110.00	4,410.76			
Lab Contact Hours Y	6,681.50	0.5	3,340.75	1,367.54			
Lab Contact Hours Z	9,146.00	0.3	2,743.80	961.63			
Unclassified				0.00			
Total Class Lab			19,194.55	6,739.93	35.1	68.0	*53.8*
RESEARCH							
Research Disciplines A	147.86	45.0	6,653.70	4,215.01			
Research Disciplines B	123.92	30.0	3,717.60	1,235.70			
Research Disciplines C	25.00	20.0	500.00	492.39			
Research Disciplines D	35.14	10.0	351.40	770.82			
Research Disciplines E	709.18	1.0	709.18	261.24			
Unclassifed				0.00			
Total Research			11,931.88	6,975.15	58.5	77.3	*110.7*
OFFICE - ACADEMIC							
Total FTE Faculty	651.70	13.0	8,472.10	7,003.21	64.3	96.8	*78.3*
Faculty Supplement	185.76	13.0	2,414.82				
Total FTE Grads	690.80	4.0	2,763.20	666.30	24.1	55.5	*47.6*
Total FTE Non-Acd Staff	313.00	13.0	4,069.00	1,700.68	41.8	83.7	*48.5*
Office Service	17,719.12	0.25	4,429.78	3,487.49	78.7	88.9	*96.9*
Total Academic Office			22,148.89	12,857.68	58.1	84.0	*73.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	354.00	13.0	4,602.00	4,080.39	88.7	100.0	*122.2*
Office Service	4,602.00	0.5	2,301.00	2,791.64	121.3	109.5	*83.7*
Total Admin. Office			6,903.00	6,872.03	99.6	103.1	*109.3*
Total Office			29,051.89	19,729.71	67.9	88.5	*82.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	13,667.60	0.6	8,200.56	1,058.35			
Student Computer Rooms	12,976.80	0.08	1,038.14	818.66			
Total Study and Student Computer Rooms			9,238.70	1,877.01	20.3	51.2	*18.2*
6% of Total Eq. Volumes	50,893.73	0.004	203.57				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	197,335.12	0.005	986.68				
Total Stack	848,228.85		5,090.25	3,980.52	78.2	80.0	*74.5*
Library Support	13,290.81	0.25	3,322.70	2,306.87	69.4	75.2	*38.2*
Total Campus Study Space & Library Facilities			17,651.66	8,164.40	46.3	67.2	*41.8*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**94,641.13**	**52,450.23**	**55.4**	**77.4**	***67.0***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	13,667.60	0.9	12,300.84				
Total P.E./Athletics			12,300.84	11,225.84	91.3	63.1	*84.4*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	125,427.96	0.015	1,881.42	1,224.37	65.1	83.6	*101.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	13,667.60	2.0	27,335.20	15,150.72	55.4	57.8	*52.0*
SUB-TOTAL: OTHER SPACE			**41,517.46**	**27,600.93**	**66.5**	**60.9**	***64.1***
TOTAL FORMULA AREAS			**136,158.59**	**80,051.16**	**58.8**	**73.0**	***66.1***

Table 6
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

CARLETON

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	19,204.64	1.23	23,621.71	15,013.48	63.6	77.9	*66.3*
CLASS LABS							
Lab Contact Hours W	14,187.00	0.8	11,349.60	5,876.17			
Lab Contact Hours X	48,242.00	0.6	28,945.20	10,049.38			
Lab Contact Hours Y	2,067.50	0.5	1,033.75	591.90			
Lab Contact Hours Z	4,412.00	0.3	1,323.60	1,563.28			
Unclassified				269.85			
Total Class Lab			42,652.15	18,350.58	43.0	68.0	*88.1*
RESEARCH							
Research Disciplines A	161.27	45.0	7,257.02	5,918.82			
Research Disciplines B	279.12	30.0	8,373.60	3,581.86			
Research Disciplines C	307.30	20.0	6,146.00	2,356.97			
Research Disciplines D	75.90	10.0	759.00	726.85			
Research Disciplines E	1,201.39	1.0	1,201.39	1,353.46			
Unclassified				0.00			
Total Research			23,737.01	13,937.96	58.7	77.3	*64.9*
OFFICE - ACADEMIC							
Total FTE Faculty	767.08	13.0	9,972.00	13,545.75	106.0	96.8	*109.0*
Faculty Supplement	215.56	13.0	2,802.30				
Total FTE Grads	2,415.30	4.0	9,661.20	4,502.77	46.6	55.5	*63.4*
Total FTE Non-Acd Staff	229.58	13.0	2,984.54	3,865.76	129.5	83.7	*127.1*
Office Service	25,420.04	0.25	6,355.01	7,444.11	117.1	88.9	*115.6*
Total Academic Office			31,775.05	29,358.39	92.4	84.0	*99.2*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	565.51	13.0	7,351.63	5,486.07	74.6	100.0	*92.4*
Office Service	7,351.63	0.5	3,675.82	5,073.69	138.0	109.5	*135.1*
Total Admin. Office			11,027.45	10,559.76	95.8	103.1	*106.6*
Total Office			42,802.50	39,918.15	93.3	88.5	*100.9*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	19,204.64	0.6	11,522.78	924.40			
Student Computer Rooms	16,789.34	0.08	1,343.15	59.45			
Total Study and Student Computer Rooms			12,865.93	983.85	7.6	51.2	*28.8*
2.3% of Total Eq. Volumes	38,829.78	0.004	155.32				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,049,421.70	0.005	5,247.11				
Total Stack	1,688,251.48		9,302.43	4,273.82	45.9	80.0	*73.0*
Library Support	20,825.21	0.25	5,206.30	9,928.91	190.7	75.2	*125.8*
Total Campus Study Space & Library Facilities			27,374.66	15,186.58	55.5	67.2	*64.7*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**160,188.02**	**102,406.75**	**63.9**	**77.4**	***80.1***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	19,204.64	0.9	17,284.18				
Total P.E./Athletics			17,284.18	13,767.58	79.7	63.1	*75.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	190,299.21	0.015	2,854.49	2,035.32	71.3	83.6	*68.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	19,204.64	2.0	38,409.28	18,318.50	47.7	57.8	*57.4*
SUB-TOTAL: OTHER SPACE			**58,547.94**	**34,121.40**	**58.3**	**60.9**	***63.2***
TOTAL FORMULA AREAS			**218,735.96**	**136,528.15**	**62.4**	**73.0**	***75.4***

Table 7
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

GUELPH

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	17,244.94	1.23	21,211.28	14,840.67	70.0	77.9	*70.1*
CLASS LABS							
Lab Contact Hours W	26,244.00	0.8	20,995.20	8,433.33			
Lab Contact Hours X	34,395.00	0.6	20,637.00	12,285.41			
Lab Contact Hours Y	4,895.00	0.5	2,447.50	1,557.36			
Lab Contact Hours Z	14,440.00	0.3	4,332.00	2,467.32			
Unclassified				190.07			
Total Class Lab			48,411.70	24,933.49	51.5	68.0	*54.4*
RESEARCH							
Research Disciplines A	917.42	45.0	41,283.90	42,950.22			
Research Disciplines B	88.34	30.0	2,650.20	1,464.10			
Research Disciplines C	111.39	20.0	2,227.80	1,179.74			
Research Disciplines D	177.21	10.0	1,772.10	767.90			
Research Disciplines E	601.32	1.0	601.32	430.75			
Unclassified				312.71			
Total Research			48,535.32	47,105.42	97.1	77.3	*109.8*
OFFICE - ACADEMIC							
Total FTE Faculty	847.33	13.0	11,015.29	16,124.97	111.4	96.8	*139.8*
Faculty Supplement	266.10	13.0	3,459.29				
Total FTE Grads	1,957.70	4.0	7,830.80	6,910.03	88.2	55.5	*104.0*
Total FTE Non-Acd Staff	307.28	13.0	3,994.64	5,269.75	131.9	83.7	*123.6*
Office Service	26,300.02	0.25	6,575.01	6,016.81	91.5	88.9	*115.2*
Total Academic Office			32,875.03	34,321.56	104.4	84.0	*123.8*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	591.22	13.0	7,685.86	11,566.07	150.5	100.0	*164.2*
Office Service	7,685.86	0.5	3,842.93	6,337.98	164.9	109.5	*198.5*
Total Admin. Office			11,528.79	17,904.05	155.3	103.1	*175.6*
Total Office			44,403.82	52,225.61	117.6	88.5	*137.9*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	17,244.94	0.6	10,346.96	4,078.42			
Student Computer Rooms	15,287.24	0.08	1,222.98	1,146.96			
Total Study and Student Computer Rooms			11,569.94	5,225.38	45.2	51.2	*45.9*
20% of Total Eq. Volumes	291,390.10	0.004	1,165.56				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	565,560.42	0.005	2,827.80				
Total Stack	1,456,950.52		7,893.36	7,006.05	88.8	80.0	*85.4*
Library Support	18,240.33	0.25	4,560.08	2,560.91	56.2	75.2	*56.3*
Total Campus Study Space & Library Facilities			24,023.39	14,792.34	61.6	67.2	*61.9*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**186,585.50**	**153,897.53**	**82.5**	**77.4**	***90.5***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	17,244.94	0.9	15,520.45				
Total P.E./Athletics			15,520.45	19,160.63	123.5	63.1	*148.0*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	330,701.85	0.015	4,960.53	5,065.21	102.1	83.6	*99.0*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	17,244.94	2.0	34,489.88	19,749.43	57.3	57.8	*68.8*
SUB-TOTAL: OTHER SPACE			**54,970.85**	**43,975.27**	**80.0**	**60.9**	***93.9***
TOTAL FORMULA AREAS			**241,556.36**	**197,872.80**	**81.9**	**73.0**	***91.2***

Table 8
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

LAKEHEAD

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	6,575.05	1.23	8,087.31	7,562.30	93.5	77.9	*93.6*
CLASS LABS							
Lab Contact Hours W	2,397.00	0.8	1,917.60	3,008.10			
Lab Contact Hours X	9,718.50	0.6	5,831.10	5,947.07			
Lab Contact Hours Y	2,222.00	0.5	1,111.00	1,930.67			
Lab Contact Hours Z	3,759.50	0.3	1,127.85	1,292.78			
Unclassified				2.98			
Total Class Lab			9,987.55	12,181.60	122.0	68.0	*117.6*
RESEARCH							
Research Disciplines A	66.74	45.0	3,003.30	2,315.19			
Research Disciplines B	100.61	30.0	3,018.30	1,825.95			
Research Disciplines C	28.92	20.0	578.40	672.09			
Research Disciplines D	30.67	10.0	306.70	357.91			
Research Disciplines E	282.85	1.0	282.85	26.48			
Unclassified				0.00			
Total Research			7,189.55	5,197.62	72.3	77.3	*76.4*
OFFICE - ACADEMIC							
Total FTE Faculty	304.94	13.0	3,964.22	4,594.90	96.1	96.8	*94.8*
Faculty Supplement	62.74	13.0	815.63				
Total FTE Grads	393.20	4.0	1,572.80	1,410.50	89.7	55.5	*85.4*
Total FTE Non-Acd Staff	106.80	13.0	1,388.40	1,299.70	93.6	83.7	*63.3*
Office Service	7,741.05	0.25	1,935.26	776.70	40.1	88.9	*37.9*
Total Academic Office			9,676.32	8,081.80	83.5	84.0	*77.4*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	379.20	13.0	4,929.60	2,429.60	49.3	100.0	*51.8*
Office Service	4,929.60	0.5	2,464.80	1,724.50	70.0	109.5	*60.9*
Total Admin. Office			7,394.40	4,154.10	56.2	103.1	*54.8*
Total Office			17,070.72	12,235.90	71.7	88.5	*67.0*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	6,575.05	0.6	3,945.03	2,866.00			
Student Computer Rooms	6,181.85	0.08	494.55	435.40			
Total Study and Student Computer Rooms			4,439.58	3,301.40	74.4	51.2	*63.3*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	73,712.18	0.005	368.56				
Total Stack	673,712.18		4,268.56	2,996.20	70.2	80.0	*66.9*
Library Support	8,213.59	0.25	2,053.40	1,020.20	49.7	75.2	*60.9*
Total Campus Study Space & Library Facilities			10,761.53	7,317.80	68.0	67.2	*64.5*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**53,096.66**	**44,495.22**	**83.8**	**77.4**	***81.8***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	6,575.05		1,000.00				
Total FTE Students	6,575.05	0.9	5,917.54				
Total P.E./Athletics			6,917.54	5,159.20	74.6	63.1	*79.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	96,787.40	0.015	1,451.81	1,153.30	79.4	83.6	*89.9*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	6,575.05	2.0	13,150.09	10,112.90	76.9	57.8	*89.0*
SUB-TOTAL: OTHER SPACE			**21,519.44**	**16,425.40**	**76.3**	**60.9**	***85.8***
TOTAL FORMULA AREAS			**74,616.10**	**60,920.62**	**81.6**	**73.0**	***82.9***

Table 9
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

LAURENTIAN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	6,572.44	1.23	8,084.10	6,550.56	81.0	77.9	*114.8*
CLASS LABS							
Lab Contact Hours W	190.00	0.8	152.00	1,045.73			
Lab Contact Hours X	8,309.00	0.6	4,985.40	3,903.78			
Lab Contact Hours Y	1,459.50	0.5	729.75	1,051.73			
Lab Contact Hours Z	783.00	0.3	234.90	772.67			
Unclassified				125.62			
Total Class Lab			6,102.05	6,899.53	113.1	68.0	*116.0*
RESEARCH							
Research Disciplines A	115.40	45.0	5,193.00	3,685.80			
Research Disciplines B	47.45	30.0	1,423.50	819.13			
Research Disciplines C	21.20	20.0	424.00	863.45			
Research Disciplines D	42.90	10.0	429.00	261.71			
Research Disciplines E	396.67	1.0	396.67	684.70			
Unclassified				0.00			
Total Research			7,866.17	6,314.79	80.3	77.3	*75.4*
OFFICE - ACADEMIC							
Total FTE Faculty	467.20	13.0	6,073.60	5,933.68	80.7	96.8	*101.9*
Faculty Supplement	98.41	13.0	1,279.33				
Total FTE Grads	284.50	4.0	1,138.00	434.50	38.2	55.5	*93.4*
Total FTE Non-Acd Staff	125.55	13.0	1,632.15	1,493.32	91.5	83.7	*122.0*
Office Service	10,123.08	0.25	2,530.77	1,481.05	58.5	88.9	*74.8*
Total Academic Office			12,653.85	9,342.55	73.8	84.0	*97.7*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	217.57	13.0	2,828.41	3,330.35	117.7	100.0	*146.3*
Office Service	2,828.41	0.5	1,414.21	1,035.31	73.2	109.5	*99.9*
Total Admin. Office			4,242.62	4,365.66	102.9	103.1	*130.8*
Total Office			16,896.47	13,708.21	81.1	88.5	*106.4*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	6,572.44	0.6	3,943.46	2,398.37			
Student Computer Rooms	6,287.94	0.08	503.04	638.98			
Total Study and Student Computer Rooms			4,446.50	3,037.35	68.3	51.2	*123.5*
26% of Total Eq. Volumes	378,892.55	0.004	1,515.57				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	478,386.48	0.005	2,391.93				
Total Stack	1,457,279.03		7,807.50	4,128.13	52.9	80.0	*63.4*
Library Support	11,750.97	0.25	2,937.74	1,014.59	34.5	75.2	*46.2*
Total Campus Study Space & Library Facilities			15,191.74	8,180.07	53.8	67.2	*74.4*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**54,140.52**	**41,653.16**	**76.9**	**77.4**	***95.0***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	6,572.44		1,000.00				
Total FTE Students	6,572.44	0.9	5,915.19				
Total P.E./Athletics			6,915.19	6,412.56	92.7	63.1	*125.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	83,606.27	0.015	1,254.09	1,564.91	124.8	83.6	*130.5*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	6,572.44	2.0	13,144.88	9,062.20	68.9	57.8	*121.6*
SUB-TOTAL: OTHER SPACE			**21,314.16**	**17,039.67**	**79.9**	**60.9**	***123.6***
TOTAL FORMULA AREAS			**75,454.68**	**58,692.83**	**77.8**	**73.0**	***102.3***

Table 10
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

ALGOMA

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	733.90	1.23	902.70	820.30	90.9	77.9	*94.0*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	940.00	0.6	564.00	0.00			
Lab Contact Hours Y	305.00	0.5	152.50	0.00			
Lab Contact Hours Z	1,084.00	0.3	325.20	0.00			
Unclassified				674.00			
Total Class Lab			1,041.70	674.00	n/a	68.0	*77.2*
RESEARCH							
Research Disciplines A	4.83	45.0	217.49	0.00			
Research Disciplines B	6.17	30.0	184.98	0.00			
Research Disciplines C	6.50	20.0	130.00	0.00			
Research Disciplines D	6.17	10.0	61.66	0.00			
Research Disciplines E	36.83	1.0	36.83	0.00			
Unclassified				69.00			
Total Research			630.96	69.00	n/a	77.3	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	65.80	13.0	855.34	438.50	44.0	96.8	*232.8*
Faculty Supplement	10.87	13.0	141.30				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	55.5	*n/a*
Total FTE Non-Acd Staff	2.00	13.0	26.00	40.70	156.5	83.7	*74.1*
Office Service	1,022.64	0.25	255.66	59.70	23.4	88.9	*63.4*
Total Academic Office			1,278.29	538.90	42.2	84.0	*176.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	45.00	13.0	585.00	438.10	74.9	100.0	*171.2*
Office Service	585.00	0.5	292.50	75.10	25.7	109.5	*23.3*
Total Admin. Office			877.50	513.20	58.5	103.1	*121.9*
Total Office			2,155.79	1,052.10	48.8	88.5	*140.7*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	733.90	0.6	440.34	287.40			
Student Computer Rooms	733.90	0.08	58.71	0.00			
Total Study and Student Computer Rooms			499.05	287.40	57.6	51.2	*71.0*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	132,528.18	0.007	927.70				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	132,528.18		927.70	1,167.20	125.8	80.0	*142.8*
Library Support	1,368.04	0.25	342.01	123.50	36.1	75.2	*179.3*
Total Campus Study Space & Library Facilities			1,768.76	1,578.10	89.2	67.2	*130.6*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**6,499.90**	**4,193.50**	**64.5**	**77.4**	***112.4***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	733.90		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	733.90	0.9	660.51				
Total P.E./Athletics			2,660.51	3,261.40	122.6	63.1	*139.8*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	12,273.10	0.015	184.10	340.90	185.2	83.6	*178.8*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	733.90	2.0	1,467.80	966.20	65.8	57.8	*91.5*
SUB-TOTAL: OTHER SPACE			**4,312.41**	**4,568.50**	**105.9**	**60.9**	***125.9***
TOTAL FORMULA AREAS			**10,812.31**	**8,762.00**	**81.0**	**73.0**	***118.5***

Table 11
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

HEARST

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	117.40	1.23	144.40	774.05	536.0	77.9	*468.9*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	600.00	0.5	300.00	300.00			
Lab Contact Hours Z	1,176.00	0.3	352.80	352.80			
Unclassified				60.50			
Total Class Lab			652.80	713.30	109.3	68.0	*100.0*
RESEARCH							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	3.50	30.0	105.00	0.00			
Research Disciplines C	2.00	20.0	40.00	0.00			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	24.00	1.0	24.00	0.00			
Unclassified				14.00			
Total Research			169.00	14.00	n/a	77.3	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	22.50	13.0	292.50	327.00	63.1	96.8	*92.3*
Faculty Supplement	17.38	13.0	225.88				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	55.5	*n/a*
Total FTE Non-Acd Staff	7.00	13.0	91.00	0.00	n/a	83.7	*n/a*
Office Service	609.38	0.25	152.34	162.00	106.3	88.9	*66.1*
Total Academic Office			761.72	489.00	64.2	84.0	*87.0*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	9.00	13.0	117.00	130.27	111.3	100.0	*77.1*
Office Service	117.00	0.5	58.50	87.53	149.6	109.5	*103.6*
Total Admin. Office			175.50	217.80	124.1	103.1	*85.9*
Total Office			937.22	706.80	75.4	88.5	*86.6*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	117.40	0.6	70.44	46.36			
Student Computer Rooms	117.40	0.08	9.39	125.54			
Total Study and Student Computer Rooms			79.83	171.90	215.3	51.2	*123.1*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	75,326.29	0.006	451.96				
Remainder	0.00	0.005	0.00				
Total Stack	375,326.29		2,551.96	309.00	12.1	80.0	*30.6*
Library Support	2,622.40	0.25	655.60	59.14	9.0	75.2	*27.3*
Total Campus Study Space & Library Facilities			3,287.39	540.04	16.4	67.2	*36.0*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**5,190.81**	**2,748.19**	**52.9**	**77.4**	***82.8***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	117.40		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	117.40	0.9	105.66				
Total P.E./Athletics			2,105.66	552.72	26.2	63.1	*26.4*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	5,886.84	0.015	88.30	191.17	216.5	83.6	*237.9*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	117.40	2.0	234.80	899.31	383.0	57.8	*448.1*
SUB-TOTAL: OTHER SPACE			**2,428.76**	**1,643.20**	**67.7**	**60.9**	***70.8***
TOTAL FORMULA AREAS			**7,619.57**	**4,391.39**	**57.6**	**73.0**	***77.0***

Table 12
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

McMASTER

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	20,459.50	1.23	25,165.19	21,323.53	84.7	77.9	*79.2*
CLASS LABS							
Lab Contact Hours W	7,168.00	0.8	5,734.40	2,989.11			
Lab Contact Hours X	30,166.00	0.6	18,099.60	14,953.75			
Lab Contact Hours Y	3,666.00	0.5	1,833.00	741.27			
Lab Contact Hours Z	19,037.00	0.3	5,711.10	1,076.67			
Unclassified				0.00			
Total Class Lab			31,378.10	19,760.80	63.0	68.0	*75.9*
RESEARCH							
Research Disciplines A	790.65	45.0	35,579.25	28,491.65			
Research Disciplines B	326.20	30.0	9,786.00	12,434.10			
Research Disciplines C	162.50	20.0	3,250.00	2,010.65			
Research Disciplines D	266.15	10.0	2,661.50	1,428.42			
Research Disciplines E	845.45	1.0	845.45	261.71			
Unclassified				0.00			
Total Research			52,122.20	44,626.53	85.6	77.3	*93.8*
OFFICE - ACADEMIC							
Total FTE Faculty	1,071.20	13.0	13,925.60	16,268.49	82.3	96.8	*89.5*
Faculty Supplement	449.68	13.0	5,845.84				
Total FTE Grads	2,350.50	4.0	9,402.00	5,538.22	58.9	55.5	*65.8*
Total FTE Non-Acd Staff	1,021.70	13.0	13,282.10	10,789.59	81.2	83.7	*82.4*
Office Service	42,455.54	0.25	10,613.89	8,405.87	79.2	88.9	*95.0*
Total Academic Office			53,069.43	41,002.17	77.3	84.0	*84.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	741.40	13.0	9,638.20	10,601.52	110.0	100.0	*119.2*
Office Service	9,638.20	0.5	4,819.10	3,219.08	66.8	109.5	*68.4*
Total Admin. Office			14,457.30	13,820.60	95.6	103.1	*102.2*
Total Office			67,526.73	54,822.77	81.2	88.5	*88.2*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	20,459.50	0.6	12,275.70	4,466.83			
Student Computer Rooms	18,109.00	0.08	1,448.72	1,131.84			
Total Study and Student Computer Rooms			13,724.42	5,598.67	40.8	51.2	*51.9*
13% of Total Eq. Volumes	306,057.84	0.004	1,224.23				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,448,233.26	0.005	7,241.17				
Total Stack	2,354,291.10		12,365.40	14,483.94	117.1	80.0	*119.0*
Library Support	24,641.10	0.25	6,160.27	6,006.47	97.5	75.2	*113.4*
Total Campus Study Space & Library Facilities			32,250.09	26,089.08	80.9	67.2	*92.3*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**208,442.30**	**166,622.71**	**79.9**	**77.4**	***87.5***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	20,459.50	0.9	18,413.55				
Total P.E./Athletics			18,413.55	9,303.42	50.5	63.1	*65.4*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	327,860.01	0.015	4,917.90	4,978.52	101.2	83.6	*107.6*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	20,459.50	2.0	40,919.00	32,536.19	79.5	57.8	*66.7*
SUB-TOTAL: OTHER SPACE			**64,250.45**	**46,818.13**	**72.9**	**60.9**	***69.9***
TOTAL FORMULA AREAS			**272,692.75**	**213,440.84**	**78.3**	**73.0**	***83.4***

Table 13
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

NIPISSING

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	3,831.38	1.23	4,712.60	3,627.56	77.0	77.9	*90.1*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	2,000.00	0.6	1,200.00	799.30			
Lab Contact Hours Y	20,769.00	0.5	10,384.50	2,218.21			
Lab Contact Hours Z	634.00	0.3	190.20	358.00			
Unclassified				0.00			
Total Class Lab			11,774.70	3,375.51	28.7	68.0	*31.4*
RESEARCH							
Research Disciplines A	13.30	45.0	598.50	365.51			
Research Disciplines B	8.60	30.0	258.00	149.50			
Research Disciplines C	6.50	20.0	130.00	15.39			
Research Disciplines D	13.10	10.0	131.00	10.80			
Research Disciplines E	178.30	1.0	178.30	56.49			
Unclassified				0.00			
Total Research			1,295.80	597.69	46.1	77.3	*17.2*
OFFICE - ACADEMIC							
Total FTE Faculty	166.10	13.0	2,159.30	1,992.95	80.3	96.8	*72.2*
Faculty Supplement	24.92	13.0	323.90				
Total FTE Grads	107.40	4.0	429.60	0.00	n/a	55.5	*n/a*
Total FTE Non-Acd Staff	51.00	13.0	663.00	222.00	33.5	83.7	*31.7*
Office Service	3,575.80	0.25	893.95	9.00	1.0	88.9	*1.5*
Total Academic Office			4,469.74	2,223.95	49.8	84.0	*46.3*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	86.00	13.0	1,118.00	1,429.75	127.9	100.0	*118.0*
Office Service	1,118.00	0.5	559.00	374.53	67.0	109.5	*60.8*
Total Admin. Office			1,677.00	1,804.28	107.6	103.1	*98.9*
Total Office			6,146.74	4,028.23	65.5	88.5	*61.6*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	3,831.38	0.6	2,298.83	145.00			
Student Computer Rooms	3,723.98	0.08	297.92	100.00			
Total Study and Student Computer Rooms			2,596.75	245.00	9.4	51.2	*12.3*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	207,376.77	0.007	1,451.64				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	207,376.77		1,451.64	1,485.00	102.3	80.0	*94.2*
Library Support	3,750.47	0.25	937.62	470.00	50.1	75.2	*64.0*
Total Campus Study Space & Library Facilities			4,986.00	2,200.00	44.1	67.2	*52.2*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**28,915.84**	**13,828.99**	**47.8**	**77.4**	***49.1***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	3,831.38		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	3,831.38	0.9	3,448.24				
Total P.E./Athletics			5,448.24	2,549.00	46.8	63.1	*59.6*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	44,887.51	0.015	673.31	0.00	n/a	83.6	*n/a*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	3,831.38	2.0	7,662.76	2,834.52	37.0	57.8	*48.4*
SUB-TOTAL: OTHER SPACE			**13,784.31**	**5,383.52**	**39.1**	**60.9**	***50.5***
TOTAL FORMULA AREAS			**42,700.16**	**19,212.51**	**45.0**	**73.0**	***49.5***

Table 14
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

ONTARIO COLLEGE OF ART & DESIGN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2001-02 % I / G
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	2,921.70	1.23	3,593.69	1,355.57	37.7	77.9	*85.0*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	31,794.00	0.6	19,076.40	8,948.38			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	0.00	0.3	0.00	0.00			
Unclassified				0.00			
Total Class Lab			19,076.40	8,948.38	46.9	68.0	*47.5*
RESEARCH							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	72.44	20.0	1,448.80	0.00			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	73.94	1.0	73.94	28.14			
Unclassified				0.00			
Total Research			1,522.74	28.14	1.8	77.3	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	146.38	13.0	1,902.94	1,043.93	47.7	96.8	*47.4*
Faculty Supplement	21.96	13.0	285.44				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	55.5	*n/a*
Total FTE Non-Acd Staff	9.37	13.0	121.81	159.85	131.2	83.7	*163.8*
Office Service	2,310.19	0.25	577.55	112.05	19.4	88.9	*7.9*
Total Academic Office			2,887.74	1,315.83	45.6	84.0	*48.7*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	105.39	13.0	1,370.07	1,231.24	89.9	100.0	*65.1*
Office Service	1,370.07	0.5	685.04	444.14	64.8	109.5	*91.6*
Total Admin. Office			2,055.11	1,675.38	81.5	103.1	*73.9*
Total Office			4,942.84	2,991.21	60.5	88.5	*61.1*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	2,921.70	0.6	1,753.02	150.98			
Student Computer Rooms	2,921.70	0.08	233.74	57.89			
Total Study and Student Computer Rooms			1,986.76	208.87	10.5	51.2	*13.2*
5% of Total Eq. Volumes	6,455.93	0.004	25.82				
Next 300,000	122,662.71	0.007	858.64				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	129,118.64		884.46	470.56	53.2	80.0	*66.3*
Library Support	2,637.48	0.25	659.37	282.28	42.8	75.2	*55.5*
Total Campus Study Space & Library Facilities			3,530.59	961.71	27.2	67.2	*35.7*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**32,666.26**	**14,285.01**	**43.7**	**77.4**	***51.3***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	2,921.70		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	2,921.70	0.9	2,629.53				
Total P.E./Athletics			4,629.53	0.00	n/a	63.1	*n/a*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	17,656.15	0.015	264.84	183.56	69.3	83.6	*44.7*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	2,921.70	2.0	5,843.40	2,991.59	51.2	57.8	*34.0*
SUB-TOTAL: OTHER SPACE			**10,737.77**	**3,175.15**	**29.6**	**60.9**	***18.2***
TOTAL FORMULA AREAS			**43,404.04**	**17,460.16**	**40.2**	**73.0**	***42.4***

Table 15
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

UNIVERSITY OF ONTARIO INSTITUTE OF TECHNOLOGY

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	1,729.81	1.23	2,127.67	2,602.00	122.3	77.9	*n/a*
CLASS LABS							
Lab Contact Hours W	552.00	0.8	441.60	790.30			
Lab Contact Hours X	3,024.00	0.6	1,814.40	2,319.70			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	0.00	0.3	0.00	0.00			
Unclassified				0.00			
Total Class Lab			2,256.00	3,110.00	137.9	68.0	*n/a*
RESEARCH							
Research Disciplines A	13.25	45.0	596.25	1,063.00			
Research Disciplines B	8.75	30.0	262.50	625.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	0.00	10.0	0.00	0.00			
Research Disciplines E	0.00	1.0	0.00	0.00			
Unclassified				0.00			
Total Research			858.75	1,688.00	n/a	77.3	*n/a*
OFFICE - ACADEMIC							
Total FTE Faculty	22.00	13.0	286.00	1,795.00	545.8	96.8	*n/a*
Faculty Supplement	3.30	13.0	42.90				
Total FTE Grads	0.00	4.0	0.00	0.00	n/a	55.5	*n/a*
Total FTE Non-Acd Staff	6.00	13.0	78.00	86.00	110.3	83.7	*n/a*
Office Service	406.90	0.25	101.73	292.00	287.0	88.9	*n/a*
Total Academic Office			508.63	2,173.00	427.2	84.0	*n/a*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	50.00	13.0	650.00	730.00	112.3	100.0	*n/a*
Office Service	650.00	0.5	325.00	91.00	28.0	109.5	*n/a*
Total Admin. Office			975.00	821.00	84.2	103.1	*n/a*
Total Office			1,483.63	2,994.00	201.8	88.5	*n/a*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	1,729.81	0.6	1,037.89	1,291.00			
Student Computer Rooms	1,729.81	0.08	138.38	768.00			
Total Study and Student Computer Rooms			1,176.27	2,059.00	175.0	51.2	*n/a*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	101,919.18	0.007	713.43				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	101,919.18		713.43	911.00	127.7	80.0	*n/a*
Library Support	1,751.32	0.25	437.83	651.00	148.7	75.2	*n/a*
Total Campus Study Space & Library Facilities			2,327.54	3,621.00	155.6	67.2	*n/a*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**9,053.58**	**14,015.00**	**154.8**	**77.4**	
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	1,729.81		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	1,729.81	0.9	1,556.83				
Total P.E./Athletics			3,556.83	1,282.00	36.0	63.1	*n/a*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	24,263.00	0.015	363.95	916.00	251.7	83.6	*n/a*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	1,729.81	2.0	3,459.62	2,140.00	61.9	57.8	*n/a*
SUB-TOTAL: OTHER SPACE			**7,380.39**	**4,338.00**	**58.8**	**60.9**	
TOTAL FORMULA AREAS			**16,433.97**	**18,353.00**	**111.7**	**73.0**	*n/a*

Table 16
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

OTTAWA

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2001-02 % I / G
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	27,025.20	1.23	33,241.00	22,521.96	67.8	77.9	*79.4*
CLASS LABS							
Lab Contact Hours W	2,553.80	0.8	2,043.04	3,426.98			
Lab Contact Hours X	30,753.20	0.6	18,451.92	12,181.79			
Lab Contact Hours Y	8,421.70	0.5	4,210.85	1,435.52			
Lab Contact Hours Z	7,599.30	0.3	2,279.79	2,280.68			
Unclassified				212.26			
Total Class Lab			26,985.60	19,537.22	72.4	68.0	*73.5*
RESEARCH							
Research Disciplines A	571.10	45.0	25,699.50	15,571.85			
Research Disciplines B	188.50	30.0	5,655.00	3,817.95			
Research Disciplines C	405.70	20.0	8,114.00	4,719.65			
Research Disciplines D	124.50	10.0	1,245.00	1,747.54			
Research Disciplines E	1,464.10	1.0	1,464.10	1,979.02			
Unclassified				1,025.64			
Total Research			42,177.60	28,861.65	68.4	77.3	*75.2*
OFFICE - ACADEMIC							
Total FTE Faculty	1,130.00	13.0	14,690.00	19,090.47	99.8	96.8	*116.2*
Faculty Supplement	341.30	13.0	4,436.90				
Total FTE Grads	3,234.80	4.0	12,939.20	4,857.20	37.5	55.5	*37.1*
Total FTE Non-Acd Staff	660.00	13.0	8,580.00	12,790.04	149.1	83.7	*186.2*
Office Service	40,646.10	0.25	10,161.53	8,576.71	84.4	88.9	*109.3*
Total Academic Office			50,807.63	45,314.42	89.2	84.0	*104.3*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	630.00	13.0	8,190.00	11,859.64	144.8	100.0	*114.9*
Office Service	8,190.00	0.5	4,095.00	5,264.31	128.6	109.5	*99.9*
Total Admin. Office			12,285.00	17,123.95	139.4	103.1	*109.9*
Total Office			63,092.63	62,438.37	99.0	88.5	*105.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	27,025.20	0.6	16,215.12	3,423.64			
Student Computer Rooms	23,790.40	0.08	1,903.23	2,026.56			
Total Study and Student Computer Rooms			18,118.35	5,450.20	30.1	51.2	*23.2*
7% of Total Eq. Volumes	191,645.90	0.004	766.58				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,946,152.61	0.005	9,730.76				
Total Stack	2,737,798.50		14,397.35	14,981.95	104.1	80.0	*107.4*
Library Support	30,612.47	0.25	7,653.12	4,240.79	55.4	75.2	*64.1*
Total Campus Study Space & Library Facilities			40,168.82	24,672.94	61.4	67.2	*64.3*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**205,665.64**	**158,032.15**	**76.8**	**77.4**	***83.8***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	27,025.20	0.9	24,322.68				
Total P.E./Athletics			24,322.68	14,310.00	58.8	63.1	*65.6*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	266,826.22	0.015	4,002.39	2,846.12	71.1	83.6	*24.2*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	27,025.20	2.0	54,050.40	21,914.12	40.5	57.8	*51.7*
SUB-TOTAL: OTHER SPACE			**82,375.47**	**39,070.24**	**47.4**	**60.9**	***54.2***
TOTAL FORMULA AREAS			**288,041.11**	**197,102.39**	**68.4**	**73.0**	***75.9***

Table 17
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

QUEEN'S

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	17,954.70	1.23	22,084.29	18,046.21	81.7	77.9	*83.8*
CLASS LABS							
Lab Contact Hours W	5,056.00	0.8	4,044.80	3,385.87			
Lab Contact Hours X	35,148.00	0.6	21,088.80	16,629.86			
Lab Contact Hours Y	9,609.50	0.5	4,804.75	3,401.16			
Lab Contact Hours Z	1,789.00	0.3	536.70	314.29			
Unclassified							
Total Class Lab			30,475.05	23,731.18	77.9	68.0	*86.6*
RESEARCH							
Research Disciplines A	631.65	45.0	28,424.25	21,552.43			
Research Disciplines B	223.45	30.0	6,703.50	9,003.84			
Research Disciplines C	112.60	20.0	2,252.00	3,083.70			
Research Disciplines D	339.25	10.0	3,392.50	3,567.25			
Research Disciplines E	919.00	1.0	919.00	837.92			
Unclassified							
Total Research			41,691.25	38,045.14	91.3	77.3	*95.0*
OFFICE - ACADEMIC							
Total FTE Faculty	823.80	13.0	10,709.40	19,693.36	111.5	96.8	*123.0*
Faculty Supplement	534.27	13.0	6,945.51				
Total FTE Grads	2,692.90	4.0	10,771.60	8,232.74	76.4	55.5	*69.3*
Total FTE Non-Acd Staff	752.00	13.0	9,776.00	11,898.46	121.7	83.7	*80.4*
Office Service	38,202.51	0.25	9,550.63	14,340.20	150.1	88.9	*119.1*
Total Academic Office			47,753.14	54,164.76	113.4	84.0	*102.1*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	657.70	13.0	8,550.10	8,537.60	99.9	100.0	*104.6*
Office Service	8,550.10	0.5	4,275.05	4,655.00	108.9	109.5	*103.8*
Total Admin. Office			12,825.15	13,192.60	102.9	103.1	*104.3*
Total Office			60,578.29	67,357.36	111.2	88.5	*102.6*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	17,954.70	0.6	10,772.82	8,012.95			
Student Computer Rooms	15,261.80	0.08	1,220.94	2,089.64			
Total Study and Student Computer Rooms			11,993.77	10,102.59	84.2	51.2	*120.4*
2% of Total Eq. Volumes	71,389.07	0.004	285.56				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	2,898,064.41	0.005	14,490.32				
Total Stack	3,569,453.48		18,675.88	14,834.74	79.4	80.0	*80.2*
Library Support	29,448.70	0.25	7,362.18	5,704.73	77.5	75.2	*87.4*
Total Campus Study Space & Library Facilities			38,031.82	30,642.06	80.6	67.2	*93.8*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**192,860.69**	**177,821.95**	**92.2**	**77.4**	***94.6***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	17,954.70	0.9	16,159.23				
Total P.E./Athletics			16,159.23	14,015.74	86.7	63.1	*97.7*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	317,575.54	0.015	4,763.63	2,089.03	43.9	83.6	*60.7*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	17,954.70	2.0	35,909.41	27,857.91	77.6	57.8	*85.8*
SUB-TOTAL: OTHER SPACE			**56,832.27**	**43,962.68**	**77.4**	**60.9**	***87.0***
TOTAL FORMULA AREAS			**249,692.97**	**221,784.63**	**88.8**	**73.0**	***92.9***

Table 18
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

RYERSON

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	20,683.60	1.23	25,440.83	17,303.60	68.0	77.9	*68.8*
CLASS LABS							
Lab Contact Hours W	12,506.00	0.8	10,004.80	7,025.90			
Lab Contact Hours X	36,897.00	0.6	22,138.20	19,414.10			
Lab Contact Hours Y	3,166.00	0.5	1,583.00	2,189.40			
Lab Contact Hours Z	24,967.00	0.3	7,490.10	4,932.30			
Unclassified				0.00			
Total Class Lab			41,216.10	33,561.70	81.4	68.0	*82.8*
RESEARCH							
Research Disciplines A	66.62	45.0	2,997.90	1,361.60			
Research Disciplines B	188.08	30.0	5,642.40	4,378.50			
Research Disciplines C	176.70	20.0	3,534.00	1,230.90			
Research Disciplines D	53.21	10.0	532.10	928.60			
Research Disciplines E	658.25	1.0	658.25	975.40			
Unclassified				174.60			
Total Research			13,364.65	9,049.60	67.7	77.3	*54.3*
OFFICE - ACADEMIC							
Total FTE Faculty	849.34	13.0	11,041.42	11,127.00	81.1	96.8	*86.1*
Faculty Supplement	206.50	13.0	2,684.51				
Total FTE Grads	518.00	4.0	2,072.00	745.60	36.0	55.5	*86.5*
Total FTE Non-Acd Staff	341.00	13.0	4,433.00	1,724.90	38.9	83.7	*62.1*
Office Service	20,230.93	0.25	5,057.73	3,291.00	65.1	88.9	*64.9*
Total Academic Office			25,288.67	16,888.50	66.8	84.0	*78.0*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	741.00	13.0	9,633.00	7,405.00	76.9	100.0	*101.9*
Office Service	9,633.00	0.5	4,816.50	5,238.40	108.8	109.5	*126.5*
Total Admin. Office			14,449.50	12,643.40	87.5	103.1	*110.1*
Total Office			39,738.17	29,531.90	74.3	88.5	*88.6*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	20,683.60	0.6	12,410.16	3,216.60			
Student Computer Rooms	20,165.60	0.08	1,613.25	834.00			
Total Study and Student Computer Rooms			14,023.41	4,050.60	28.9	51.2	*26.2*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	77,441.29	0.005	387.21				
Total Stack	677,441.29		4,287.21	3,157.80	73.7	80.0	*74.4*
Library Support	16,697.37	0.25	4,174.34	2,228.30	53.4	75.2	*61.1*
Total Campus Study Space & Library Facilities			22,484.96	9,436.70	42.0	67.2	*43.4*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**142,244.70**	**98,883.50**	**69.5**	**77.4**	***73.0***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	20,683.60	0.9	18,615.24				
Total P.E./Athletics			18,615.24	6,158.00	33.1	63.1	*41.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	148,313.30	0.015	2,224.70	2,388.90	107.4	83.6	*113.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	20,683.60	2.0	41,367.20	15,987.10	38.6	57.8	*46.4*
SUB-TOTAL: OTHER SPACE			**62,207.14**	**24,534.00**	**39.4**	**60.9**	***47.9***
TOTAL FORMULA AREAS			**204,451.84**	**123,417.50**	**60.4**	**73.0**	***65.3***

Table 19
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

TORONTO (ST. GEORGE)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	42,850.69	1.23	52,706.35	47,093.18	89.4	77.9	*94.8*
CLASS LABS							
Lab Contact Hours W	9,462.00	0.8	7,569.60	6,198.39			
Lab Contact Hours X	62,653.00	0.6	37,591.80	35,447.36			
Lab Contact Hours Y	6,542.00	0.5	3,271.00	1,564.71			
Lab Contact Hours Z	3,617.00	0.3	1,085.10	1,478.19			
Unclassified				0.00			
Total Class Lab			49,517.50	44,688.65	90.2	68.0	*114.1*
RESEARCH							
Research Disciplines A	1,738.40	45.0	78,228.00	48,997.92			
Research Disciplines B	1,069.49	30.0	32,084.55	27,256.74			
Research Disciplines C	368.19	20.0	7,363.80	7,570.06			
Research Disciplines D	1,058.87	10.0	10,588.70	6,046.76			
Research Disciplines E	3,697.35	1.0	3,697.35	1,857.53			
Unclassified				0.00			
Total Research			131,962.40	91,729.01	69.5	77.3	*79.2*
OFFICE - ACADEMIC							
Total FTE Faculty	2,249.26	13.0	29,240.38	48,519.51	107.2	96.8	*120.1*
Faculty Supplement	1,231.16	13.0	16,005.07				
Total FTE Grads	10,479.30	4.0	41,917.20	17,175.54	41.0	55.5	*43.5*
Total FTE Non-Acd Staff	2,292.15	13.0	29,797.95	24,550.52	82.4	83.7	*83.1*
Office Service	116,960.60	0.25	29,240.15	27,302.22	93.4	88.9	*96.7*
Total Academic Office			146,200.75	117,547.79	80.4	84.0	*86.6*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,308.30	13.0	17,007.90	14,727.31	86.6	100.0	*104.0*
Office Service	17,007.90	0.5	8,503.95	7,859.34	92.4	109.5	*115.9*
Total Admin. Office			25,511.85	22,586.65	88.5	103.1	*108.0*
Total Office			171,712.60	140,134.44	81.6	88.5	*89.7*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	42,850.69	0.6	25,710.41	22,636.19			
Student Computer Rooms	32,371.39	0.08	2,589.71	5,482.01			
Total Study and Student Computer Rooms			28,300.13	28,118.20	99.4	51.2	*103.6*
12% of Total Eq. Volumes	1,208,358.18	0.004	4,833.43				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	8,261,293.30	0.005	41,306.47				
Total Stack	10,069,651.48		50,039.90	41,657.75	83.2	80.0	*87.5*
Library Support	75,750.31	0.25	18,937.58	17,469.00	92.2	75.2	*100.7*
Total Campus Study Space & Library Facilities			97,277.60	87,244.95	89.7	67.2	*94.5*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**503,176.45**	**410,890.23**	**81.7**	**77.4**	***90.9***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	42,850.69	0.9	38,565.62				
Total P.E./Athletics			38,565.62	24,268.33	62.9	63.1	*74.3*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	634,966.32	0.015	9,524.49	7,871.34	82.6	83.6	*83.8*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	42,850.69	2.0	85,701.38	54,840.08	64.0	57.8	*73.5*
SUB-TOTAL: OTHER SPACE			**133,791.50**	**86,979.75**	**65.0**	**60.9**	***74.6***
TOTAL FORMULA AREAS			**636,967.94**	**497,869.98**	**78.2**	**73.0**	***87.4***

Table 20
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

TORONTO (MISSISSAUGA)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2001-02 % I / G
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	7,414.20	1.23	9,119.47	6,806.03	74.6	77.9	*79.0*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	6,614.00	0.6	3,968.40	5,436.39			
Lab Contact Hours Y	2,291.00	0.5	1,145.50	839.74			
Lab Contact Hours Z	1,386.00	0.3	415.80	313.62			
Unclassified				0.00			
Total Class Lab			5,529.70	6,589.75	119.2	68.0	*124.0*
RESEARCH							
Research Disciplines A	130.50	45.0	5,872.50	6,160.37			
Research Disciplines B	0.00	30.0	0.00	0.00			
Research Disciplines C	30.70	20.0	614.00	455.98			
Research Disciplines D	20.50	10.0	205.00	93.75			
Research Disciplines E	194.62	1.0	194.62	254.09			
Unclassified				0.00			
Total Research			6,886.12	6,964.19	101.1	77.3	*120.3*
OFFICE - ACADEMIC							
Total FTE Faculty	239.42	13.0	3,112.46	4,328.57	110.5	96.8	*117.9*
Faculty Supplement	61.91	13.0	804.87				
Total FTE Grads	247.80	4.0	991.20	855.52	86.3	55.5	*130.1*
Total FTE Non-Acd Staff	84.98	13.0	1,104.74	864.03	78.2	83.7	*60.1*
Office Service	6,013.27	0.25	1,503.32	738.32	49.1	88.9	*53.9*
Total Academic Office			7,516.59	6,786.44	90.3	84.0	*95.1*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	145.43	13.0	1,890.59	1,809.99	95.7	100.0	*116.2*
Office Service	1,890.59	0.5	945.30	775.93	82.1	109.5	*98.9*
Total Admin. Office			2,835.89	2,585.92	91.2	103.1	*110.4*
Total Office			10,352.47	9,372.36	90.5	88.5	*98.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	7,414.20	0.6	4,448.52	1,613.32			
Student Computer Rooms	7,166.40	0.08	573.31	522.41			
Total Study and Student Computer Rooms			5,021.83	2,135.73	42.5	51.2	*62.7*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	115,832.77	0.006	695.00				
Remainder	0.00	0.005	0.00				
Total Stack	415,832.77		2,795.00	1,892.52	67.7	80.0	*71.4*
Library Support	7,243.52	0.25	1,810.88	750.27	41.4	75.2	*57.4*
Total Campus Study Space & Library Facilities			9,627.71	4,778.52	49.6	67.2	*64.8*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**41,515.47**	**34,510.85**	**83.1**	**77.4**	***93.9***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	7,414.20		1,000.00				
Total FTE Students	7,414.20	0.9	6,672.78				
Total P.E./Athletics			7,672.78	2,406.16	31.4	63.1	*42.6*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	72,481.86	0.015	1,087.23	671.15	61.7	83.6	*74.3*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	7,414.20	2.0	14,828.40	6,989.40	47.1	57.8	*66.3*
SUB-TOTAL: OTHER SPACE			**23,588.41**	**10,066.71**	**42.7**	**60.9**	***58.8***
TOTAL FORMULA AREAS			**65,103.87**	**44,577.56**	**68.5**	**73.0**	***81.6***

Table 21
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

TORONTO (SCARBOROUGH)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	7,280.40	1.23	8,954.89	5,429.08	60.6	77.9	*63.8*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	9,350.00	0.6	5,610.00	3,996.44			
Lab Contact Hours Y	825.00	0.5	412.50	208.32			
Lab Contact Hours Z	171.00	0.3	51.30	311.55			
Unclassified				0.00			
Total Class Lab			6,073.80	4,516.31	74.4	68.0	*112.2*
RESEARCH							
Research Disciplines A	70.46	45.0	3,170.70	3,467.43			
Research Disciplines B	17.50	30.0	525.00	707.26			
Research Disciplines C	10.00	20.0	200.00	193.81			
Research Disciplines D	26.80	10.0	268.00	0.00			
Research Disciplines E	134.43	1.0	134.43	127.31			
Unclassified				0.00			
Total Research			4,298.13	4,495.81	104.6	77.3	*100.2*
OFFICE - ACADEMIC							
Total FTE Faculty	223.54	13.0	2,906.02	3,645.91	101.6	96.8	*96.0*
Faculty Supplement	52.53	13.0	682.90				
Total FTE Grads	52.30	4.0	209.20	904.57	432.4	55.5	*271.9*
Total FTE Non-Acd Staff	56.85	13.0	739.05	494.57	66.9	83.7	*67.2*
Office Service	4,537.17	0.25	1,134.29	445.76	39.3	88.9	*18.0*
Total Academic Office			5,671.47	5,490.81	96.8	84.0	*84.1*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	151.50	13.0	1,969.50	1,873.45	95.1	100.0	*95.1*
Office Service	1,969.50	0.5	984.75	833.77	84.7	109.5	*99.6*
Total Admin. Office			2,954.25	2,707.22	91.6	103.1	*96.6*
Total Office			8,625.72	8,198.03	95.0	88.5	*87.7*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	7,280.40	0.6	4,368.24	2,248.79			
Student Computer Rooms	7,228.10	0.08	578.25	830.57			
Total Study and Student Computer Rooms			4,946.49	3,079.36	62.3	51.2	*55.7*
17% of Total Eq. Volumes	51,092.51	0.004	204.37				
Next 300,000	249,451.67	0.007	1,746.16				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	300,544.18		1,950.53	1,819.45	93.3	80.0	*61.3*
Library Support	6,318.77	0.25	1,579.69	1,135.61	71.9	75.2	*63.1*
Total Campus Study Space & Library Facilities			8,476.71	6,034.42	71.2	67.2	*58.7*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**36,429.25**	**28,673.65**	**78.7**	**77.4**	***81.1***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	7,280.40		1,000.00				
Total FTE Students	7,280.40	0.9	6,552.36				
Total P.E./Athletics			7,552.36	4,170.89	55.2	63.1	*72.4*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	57,398.16	0.015	860.97	645.14	74.9	83.6	*161.9*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	7,280.40	2.0	14,560.80	6,577.47	45.2	57.8	*52.7*
SUB-TOTAL: OTHER SPACE			**22,974.13**	**11,393.50**	**49.6**	**60.9**	***64.0***
TOTAL FORMULA AREAS			**59,403.38**	**40,067.15**	**67.4**	**73.0**	***74.8***

Table 22
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

TRENT

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2001-02 % I / G
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	6,379.00	1.23	7,846.17	7,435.00	94.8	77.9	*84.0*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	6,179.00	0.6	3,707.40	2,288.00			
Lab Contact Hours Y	8,230.00	0.5	4,115.00	856.00			
Lab Contact Hours Z	1,807.00	0.3	542.10	258.00			
Unclassified				379.00			
Total Class Lab			8,364.50	3,781.00	45.2	68.0	*47.9*
RESEARCH							
Research Disciplines A	93.22	45.0	4,194.68	2,651.00			
Research Disciplines B	18.20	30.0	546.00	208.00			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	41.03	10.0	410.25	750.00			
Research Disciplines E	246.27	1.0	246.27	550.00			
Unclassified				480.00			
Total Research			5,397.19	4,639.00	86.0	77.3	*65.8*
OFFICE - ACADEMIC							
Total FTE Faculty	277.79	13.0	3,611.27	4,749.00	105.2	96.8	*85.5*
Faculty Supplement	69.50	13.0	903.48				
Total FTE Grads	214.00	4.0	856.00	582.00	68.0	55.5	*44.3*
Total FTE Non-Acd Staff	86.00	13.0	1,118.00	1,106.00	98.9	83.7	*81.8*
Office Service	6,488.75	0.25	1,622.19	779.00	48.0	88.9	*34.0*
Total Academic Office			8,110.94	7,216.00	89.0	84.0	*70.7*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	273.00	13.0	3,549.00	4,145.00	116.8	100.0	*128.4*
Office Service	3,549.00	0.5	1,774.50	1,347.00	75.9	109.5	*100.9*
Total Admin. Office			5,323.50	5,492.00	103.2	103.1	*119.2*
Total Office			13,434.44	12,708.00	94.6	88.5	*85.4*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	6,379.00	0.6	3,827.40	320.00			
Student Computer Rooms	6,165.00	0.08	493.20	507.00			
Total Study and Student Computer Rooms			4,320.60	827.00	19.1	51.2	*22.6*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	23,069.95	0.005	115.35				
Total Stack	623,069.95		4,015.35	4,036.00	100.5	80.0	*74.7*
Library Support	7,842.75	0.25	1,960.69	2,378.00	121.3	75.2	*130.6*
Total Campus Study Space & Library Facilities			10,296.64	7,241.00	70.3	67.2	*70.2*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**45,338.94**	**35,804.00**	**79.0**	**77.4**	**72.2**
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	6,379.00		1,000.00				
Total FTE Students	6,379.00	0.9	5,741.10				
Total P.E./Athletics			6,741.10	3,891.00	57.7	63.1	*62.1*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	67,954.00	0.015	1,019.31	423.00	41.5	83.6	*47.7*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	6,379.00	2.0	12,758.00	7,094.00	55.6	57.8	*65.8*
SUB-TOTAL: OTHER SPACE			**20,518.41**	**11,408.00**	**55.6**	**60.9**	**63.5**
TOTAL FORMULA AREAS			**65,857.35**	**47,212.00**	**71.7**	**73.0**	**69.8**

Table 23
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

WATERLOO

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	20,607.22	1.23	25,346.88	20,193.00	79.7	77.9	*85.9*
CLASS LABS							
Lab Contact Hours W	10,087.50	0.8	8,070.00	5,043.01			
Lab Contact Hours X	32,772.50	0.6	19,663.50	15,341.55			
Lab Contact Hours Y	5,717.00	0.5	2,858.50	2,766.78			
Lab Contact Hours Z	11,292.00	0.3	3,387.60	1,968.94			
Unclassified				0.0			
Total Class Lab			33,979.60	25,120.30	73.9	68.0	*81.8*
RESEARCH							
Research Disciplines A	539.77	45.0	24,289.65	20,710.58			
Research Disciplines B	292.80	30.0	8,784.00	10,755.01			
Research Disciplines C	376.25	20.0	7,525.00	4,876.95			
Research Disciplines D	311.60	10.0	3,116.00	3,461.14			
Research Disciplines E	815.91	1.0	815.91	1,769.54			
Unclassified				0.01			
Total Research			44,530.56	41,573.23	93.4	77.3	*76.6*
OFFICE - ACADEMIC							
Total FTE Faculty	1,013.22	13.0	13,171.86	17,109.13	96.0	96.8	*102.0*
Faculty Supplement	357.60	13.0	4,648.84				
Total FTE Grads	2,419.70	4.0	9,678.80	11,804.40	122.0	55.5	*121.0*
Total FTE Non-Acd Staff	814.00	13.0	10,582.00	6,494.70	61.4	83.7	*48.5*
Office Service	38,081.50	0.25	9,520.37	8,035.20	84.4	88.9	*82.1*
Total Academic Office			47,601.87	43,443.43	91.3	84.0	*88.8*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	839.92	13.0	10,918.96	11,531.94	105.6	100.0	*126.8*
Office Service	10,918.96	0.5	5,459.48	7,353.68	134.7	109.5	*108.8*
Total Admin. Office			16,378.44	18,885.62	115.3	103.1	*120.8*
Total Office			63,980.31	62,329.05	97.4	88.5	*95.9*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	20,607.22	0.6	12,364.33	5,561.66			
Student Computer Rooms	18,187.52	0.08	1,455.00	2,501.48			
Total Study and Student Computer Rooms			13,819.33	8,063.14	58.3	51.2	*57.2*
30% of Total Eq. Volumes	1,000,727.79	0.004	4,002.91				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,735,031.52	0.005	8,675.16				
Total Stack	3,335,759.31		16,578.07	8,422.16	50.8	80.0	*52.9*
Library Support	28,942.40	0.25	7,235.60	3,578.82	49.5	75.2	*50.1*
Total Campus Study Space & Library Facilities			37,633.00	20,064.12	53.3	67.2	*53.8*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**205,470.36**	**169,279.70**	**82.4**	**77.4**	***80.1***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	20,607.22	0.9	18,546.50				
Total P.E./Athletics			18,546.50	12,959.29	69.9	63.1	*77.7*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	355,684.70	0.015	5,335.27	6,367.22	119.3	83.6	*133.6*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	20,607.22	2.0	41,214.44	31,774.82	77.1	57.8	*92.5*
SUB-TOTAL: OTHER SPACE			**65,096.21**	**51,101.33**	**78.5**	**60.9**	***91.9***
TOTAL FORMULA AREAS			**270,566.57**	**220,381.03**	**81.5**	**73.0**	***82.7***

Table 24
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

WESTERN

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	2001-02 % I / G
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	30,164.20	1.23	37,101.97	36,725.00	99.0	77.9	*97.3*
CLASS LABS							
Lab Contact Hours W	7,214.00	0.8	5,771.20	1,677.23			
Lab Contact Hours X	60,023.00	0.6	36,013.80	20,492.38			
Lab Contact Hours Y	12,907.00	0.5	6,453.50	6,528.57			
Lab Contact Hours Z	9,608.00	0.3	2,882.40	3,498.30			
Unclassified				0.00			
Total Class Lab			51,120.90	32,196.47	63.0	68.0	*70.7*
RESEARCH							
Research Disciplines A	856.65	45.0	38,549.25	26,523.33			
Research Disciplines B	363.60	30.0	10,908.00	8,189.50			
Research Disciplines C	208.15	20.0	4,163.00	2,158.36			
Research Disciplines D	351.80	10.0	3,518.00	2,015.24			
Research Disciplines E	1,692.35	1.0	1,692.35	509.57			
Unclassified				0.00			
Total Research			58,830.60	39,396.00	67.0	77.3	*63.9*
OFFICE - ACADEMIC							
Total FTE Faculty	1,498.70	13.0	19,483.10	27,425.00	100.8	96.8	*96.4*
Faculty Supplement	593.51	13.0	7,715.57				
Total FTE Grads	3,579.00	4.0	14,316.00	8,446.00	59.0	55.5	*56.1*
Total FTE Non-Acd Staff	1,522.40	13.0	19,791.20	9,461.00	47.8	83.7	*44.4*
Office Service	61,305.86	0.25	15,326.47	13,164.00	85.9	88.9	*83.3*
Total Academic Office			76,632.33	58,496.00	76.3	84.0	*73.7*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	1,313.00	13.0	17,069.00	13,146.00	77.0	100.0	*80.8*
Office Service	17,069.00	0.5	8,534.50	8,415.00	98.6	109.5	*102.5*
Total Admin. Office			25,603.50	21,561.00	84.2	103.1	*88.0*
Total Office			102,235.83	80,057.00	78.3	88.5	*77.7*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	30,164.20	0.6	18,098.52	11,200.00			
Student Computer Rooms	26,585.20	0.08	2,126.82	468.00			
Total Study and Student Computer Rooms			20,225.34	11,668.00	57.7	51.2	*55.2*
26% of Total Eq. Volumes	1,043,446.56	0.004	4,173.79				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	2,369,809.44	0.005	11,849.05				
Total Stack	4,013,256.00		19,922.83	16,200.00	81.3	80.0	*92.7*
Library Support	38,021.35	0.25	9,505.34	6,777.00	71.3	75.2	*83.3*
Total Campus Study Space & Library Facilities			49,653.51	34,645.00	69.8	67.2	*75.3*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**298,942.81**	**223,019.48**	**74.6**	**77.4**	***75.9***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	30,164.20	0.9	27,147.78				
Total P.E./Athletics			27,147.78	16,024.00	59.0	63.1	*68.4*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	453,252.00	0.015	6,798.78	5,705.00	83.9	83.6	*105.1*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	30,164.20	2.0	60,328.40	34,644.00	57.4	57.8	*65.4*
SUB-TOTAL: OTHER SPACE			**94,274.96**	**56,373.00**	**59.8**	**60.9**	***69.0***
TOTAL FORMULA AREAS			**393,217.77**	**279,392.48**	**71.1**	**73.0**	***74.2***

Table 25
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

WILFRID LAURIER

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	11,426.10	1.23	14,054.10	11,183.69	79.6	77.9	*66.2*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	8,211.50	0.6	4,926.90	3,214.17			
Lab Contact Hours Y	4,031.00	0.5	2,015.50	1,340.50			
Lab Contact Hours Z	3,996.00	0.3	1,198.80	597.40			
Unclassified				0.00			
Total Class Lab			8,141.20	5,152.07	63.3	68.0	*66.6*
RESEARCH							
Research Disciplines A	35.00	45.0	1,575.00	2,668.47			
Research Disciplines B	58.65	30.0	1,759.50	1,088.81			
Research Disciplines C	24.50	20.0	490.00	81.61			
Research Disciplines D	42.25	10.0	422.50	596.63			
Research Disciplines E	639.15	1.0	639.15	267.89			
Unclassified				0.00			
Total Research			4,886.15	4,703.40	96.3	77.3	*60.0*
OFFICE - ACADEMIC							
Total FTE Faculty	455.00	13.0	5,915.00	7,526.34	110.6	96.8	*102.7*
Faculty Supplement	68.25	13.0	887.25				
Total FTE Grads	689.10	4.0	2,756.40	391.21	14.2	55.5	*32.7*
Total FTE Non-Acd Staff	213.30	13.0	2,772.90	1,442.72	52.0	83.7	*82.9*
Office Service	12,331.55	0.25	3,082.89	1,892.06	61.4	88.9	*80.0*
Total Academic Office			15,414.44	11,252.33	73.0	84.0	*80.4*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	329.50	13.0	4,283.50	4,583.68	107.0	100.0	*110.3*
Office Service	4,283.50	0.5	2,141.75	4,087.50	190.8	109.5	*181.7*
Total Admin. Office			6,425.25	8,671.18	135.0	103.1	*134.1*
Total Office			21,839.69	19,923.51	91.2	88.5	*98.0*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	11,426.10	0.6	6,855.66	3,095.85			
Student Computer Rooms	10,737.00	0.08	858.96	667.31			
Total Study and Student Computer Rooms			7,714.62	3,763.16	48.8	51.2	*49.0*
1% of Total Eq. Volumes	9,753.17	0.004	39.01				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	365,563.81	0.005	1,827.82				
Total Stack	975,316.98		5,766.83	5,527.71	95.9	80.0	*61.9*
Library Support	12,622.49	0.25	3,155.62	1,642.00	52.0	75.2	*46.6*
Total Campus Study Space & Library Facilities			16,637.07	10,932.87	65.7	67.2	*53.9*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**65,558.22**	**51,895.54**	**79.2**	**77.4**	***72.4***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	11,426.10	0.9	10,283.49				
Total P.E./Athletics			10,283.49	6,499.42	63.2	63.1	*77.8*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	135,527.99	0.015	2,032.92	1,144.49	56.3	83.6	*71.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	11,426.10	2.0	22,852.20	13,895.73	60.8	57.8	*68.7*
SUB-TOTAL: OTHER SPACE			**35,168.61**	**21,539.64**	**61.2**	**60.9**	***71.5***
TOTAL FORMULA AREAS			**100,726.82**	**73,435.18**	**72.9**	**73.0**	***72.1***

Table 26
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

WINDSOR

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	13,810.50	1.23	16,986.92	11,667.36	68.7	77.9	*73.8*
CLASS LABS							
Lab Contact Hours W	1,945.00	0.8	1,556.00	3,249.95			
Lab Contact Hours X	14,162.00	0.6	8,497.20	9,053.89			
Lab Contact Hours Y	8,145.00	0.5	4,072.50	1,274.99			
Lab Contact Hours Z	3,803.00	0.3	1,140.90	2,048.31			
Unclassified				120.40			
Total Class Lab			15,266.60	15,747.54	103.2	68.0	*103.8*
RESEARCH							
Research Disciplines A	154.60	45.0	6,957.00	7,951.83			
Research Disciplines B	224.20	30.0	6,726.00	4,453.12			
Research Disciplines C	61.85	20.0	1,237.00	770.08			
Research Disciplines D	120.55	10.0	1,205.50	625.05			
Research Disciplines E	567.00	1.0	567.00	304.25			
Unclassified				0.00			
Total Research			16,692.50	14,104.33	84.5	77.3	*94.6*
OFFICE - ACADEMIC							
Total FTE Faculty	533.00	13.0	6,929.00	10,834.05	127.2	96.8	*134.0*
Faculty Supplement	121.95	13.0	1,585.35				
Total FTE Grads	1,148.40	4.0	4,593.60	2,618.80	57.0	55.5	*88.7*
Total FTE Non-Acd Staff	299.00	13.0	3,887.00	2,522.53	64.9	83.7	*67.9*
Office Service	16,994.95	0.25	4,248.74	3,649.39	85.9	88.9	*98.4*
Total Academic Office			21,243.69	19,624.77	92.4	84.0	*106.4*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	456.00	13.0	5,928.00	5,381.40	90.8	100.0	*95.7*
Office Service	5,928.00	0.5	2,964.00	2,632.91	88.8	109.5	*101.9*
Total Admin. Office			8,892.00	8,014.31	90.1	103.1	*97.7*
Total Office			30,135.69	27,639.08	91.7	88.5	*103.8*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	13,810.50	0.6	8,286.30	5,796.31			
Student Computer Rooms	12,662.10	0.08	1,012.97	617.43			
Total Study and Student Computer Rooms			9,299.27	6,413.74	69.0	51.2	*84.8*
12% of Total Eq. Volumes	237,329.65	0.004	949.32				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,140,417.41	0.005	5,702.09				
Total Stack	1,977,747.06		10,551.41	7,437.82	70.5	80.0	*72.0*
Library Support	18,837.71	0.25	4,709.43	2,784.21	59.1	75.2	*73.1*
Total Campus Study Space & Library Facilities			24,560.10	16,635.77	67.7	67.2	*76.5*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**103,641.80**	**85,794.08**	**82.8**	**77.4**	***91.1***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	13,810.50	0.9	12,429.45				
Total P.E./Athletics			12,429.45	10,270.71	82.6	63.1	*103.5*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	144,455.04	0.015	2,166.83	1,570.07	72.5	83.6	*94.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	13,810.50	2.0	27,621.00	17,385.51	62.9	57.8	*78.2*
SUB-TOTAL: OTHER SPACE			**42,217.28**	**29,226.29**	**69.2**	**60.9**	***86.6***
TOTAL FORMULA AREAS			**145,859.08**	**115,020.37**	**78.9**	**73.0**	***89.8***

Table 27
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

YORK (KEELE)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	37,973.78	1.23	46,707.75	32,418.60	69.4	77.9	*61.9*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	38,541.50	0.6	23,124.90	12,714.60			
Lab Contact Hours Y	12,271.00	0.5	6,135.50	2,483.90			
Lab Contact Hours Z	7,061.50	0.3	2,118.45	3,744.60			
Unclassified				997.20			
Total Class Lab			31,378.85	19,940.30	63.5	68.0	*73.9*
RESEARCH							
Research Disciplines A	262.48	45.0	11,811.38	8,658.60			
Research Disciplines B	229.13	30.0	6,873.90	2,168.00			
Research Disciplines C	186.85	20.0	3,737.00	950.50			
Research Disciplines D	502.75	10.0	5,027.50	3,453.40			
Research Disciplines E	2,607.47	1.0	2,607.47	2,885.20			
Unclassified				2,194.10			
Total Research			30,057.24	20,309.80	67.6	77.3	*55.2*
OFFICE - ACADEMIC							
Total FTE Faculty	1,905.51	13.0	24,771.63	24,046.80	78.0	96.8	*93.3*
Faculty Supplement	466.95	13.0	6,070.30				
Total FTE Grads	3,572.60	4.0	14,290.40	6,238.60	43.7	55.5	*41.6*
Total FTE Non-Acd Staff	730.00	13.0	9,490.00	10,683.50	112.6	83.7	*107.5*
Office Service	54,622.33	0.25	13,655.58	13,038.80	95.5	88.9	*97.2*
Total Academic Office			68,277.92	54,007.70	79.1	84.0	*83.9*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	878.00	13.0	11,414.00	14,363.70	125.8	100.0	*100.3*
Office Service	11,414.00	0.5	5,707.00	7,468.40	130.9	109.5	*95.1*
Total Admin. Office			17,121.00	21,832.10	127.5	103.1	*98.6*
Total Office			85,398.92	75,839.80	88.8	88.5	*87.6*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	37,973.78	0.6	22,784.27	7,901.70			
Student Computer Rooms	34,401.18	0.08	2,752.09	1,230.60			
Total Study and Student Computer Rooms			25,536.36	9,132.30	35.8	51.2	*31.2*
22.7% of Total Eq. Volumes	568,014.28	0.004	2,272.06				
Next 300,000	300,000.00	0.007	2,100.00				
Next 300,000	300,000.00	0.006	1,800.00				
Remainder	1,334,251.28	0.005	6,671.26				
Total Stack	2,502,265.56		12,843.31	11,367.70	88.5	80.0	*78.6*
Library Support	35,627.58	0.25	8,906.90	5,503.30	61.8	75.2	*72.2*
Total Campus Study Space & Library Facilities			47,286.57	26,003.30	55.0	67.2	*54.2*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**240,829.33**	**174,511.80**	**72.5**	**77.4**	***70.1***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	0.00						
4,000-8,000 Enrol.	0.00						
Total FTE Students	37,973.78	0.9	34,176.40				
Total P.E./Athletics			34,176.40	12,438.00	36.4	63.1	*33.2*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	323,786.80	0.015	4,856.80	3,787.50	78.0	83.6	*93.3*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	37,973.78	2.0	75,947.56	34,093.60	44.9	57.8	*52.7*
SUB-TOTAL: OTHER SPACE			**114,980.76**	**50,319.10**	**43.8**	**60.9**	***48.8***
TOTAL FORMULA AREAS			**355,810.09**	**224,830.90**	**63.2**	**73.0**	***63.5***

Table 28
Institutional Space Requirements As Measured By COU Space Standards, 2004-05

YORK (GLENDON)

	Input Measure	Space Factor	Generated Space	Inventory	% I / G	System Average	*2001-02 % I / G*
RESEARCH/TEACHING/ACADEMIC SUPPORT							
CLASSROOMS							
Total FTE Students	1,820.30	1.23	2,238.97	2,331.30	104.1	77.9	*133.8*
CLASS LABS							
Lab Contact Hours W	0.00	0.8	0.00	0.00			
Lab Contact Hours X	0.00	0.6	0.00	0.00			
Lab Contact Hours Y	0.00	0.5	0.00	0.00			
Lab Contact Hours Z	1,865.50	0.3	559.65	419.40			
Unclassified				230.30			
Total Class Lab			559.65	649.70	116.1	68.0	*154.2*
RESEARCH							
Research Disciplines A	0.00	45.0	0.00	0.00			
Research Disciplines B	9.20	30.0	276.00	150.50			
Research Disciplines C	0.00	20.0	0.00	0.00			
Research Disciplines D	8.00	10.0	80.00	0.00			
Research Disciplines E	168.95	1.0	168.95	36.00			
Unclassified				0.00			
Total Research			524.95	186.50	35.5	77.3	*52.4*
OFFICE - ACADEMIC							
Total FTE Faculty	174.50	13.0	2,268.50	2,077.30	79.5	96.8	*141.8*
Faculty Supplement	26.38	13.0	342.88				
Total FTE Grads	23.30	4.0	93.20	32.10	34.4	55.5	*30.8*
Total FTE Non-Acd Staff	43.00	13.0	559.00	601.30	107.6	83.7	*127.7*
Office Service	3,263.58	0.25	815.89	436.10	53.5	88.9	*100.6*
Total Academic Office			4,079.47	3,146.80	77.1	84.0	*126.5*
OFFICE - ADMINISTRATIVE							
Total FTE Non-Acd Staff	24.00	13.0	312.00	703.90	225.6	100.0	*149.9*
Office Service	312.00	0.5	156.00	347.30	222.6	109.5	*177.2*
Total Admin. Office			468.00	1,051.20	224.6	103.1	*159.0*
Total Office			4,547.47	4,198.00	92.3	88.5	*133.1*
CAMPUS STUDY SPACE & LIBRARY FACILITIES							
Study (Total FTE Students)	1,820.30	0.6	1,092.18	355.20			
Student Computer Rooms	1,797.00	0.08	143.76	140.70			
Total Study and Student Computer Rooms			1,235.94	495.90	40.1	51.2	*47.6*
0% of Total Eq. Volumes	0.00	0.004	0.00				
Next 300,000	260,821.71	0.007	1,825.75				
Next 300,000	0.00	0.006	0.00				
Remainder	0.00	0.005	0.00				
Total Stack	260,821.71		1,825.75	1,017.10	55.7	80.0	*51.1*
Library Support	2,917.93	0.25	729.48	328.60	45.0	75.2	*35.6*
Total Campus Study Space & Library Facilities			3,791.17	1,841.60	48.6	67.2	*47.2*
SUB-TOTAL: RESEARCH/TEACHING/ACAD SUPPORT			**11,662.21**	**9,207.10**	**78.9**	**77.4**	***95.6***
OTHER SPACE							
RECREATION / ATHLETICS							
Under 4,000 FTE Enrol.	1,820.30		2,000.00				
4,000-8,000 Enrol.	0.00						
Total FTE Students	1,820.30	0.9	1,638.27				
Total P.E./Athletics			3,638.27	2,845.50	78.2	63.1	*87.7*
MAINTENANCE SHOPS							
Total NASM Inv. (exc. 16.0)	23,694.60	0.015	355.42	300.20	84.5	83.6	*96.4*
STUDENT AND CENTRAL SERVICES							
Total FTE Students	1,820.30	2.0	3,640.60	3,330.80	91.5	57.8	*120.9*
SUB-TOTAL: OTHER SPACE			**7,634.29**	**6,476.50**	**84.8**	**60.9**	***102.6***
TOTAL FORMULA AREAS			**19,296.50**	**15,683.60**	**81.3**	**73.0**	***98.4***

Section 4

SUMMARY TABLES

Table 29

Classroom Facilities (1): Generated Space and Inventory, 2004-05

	FTE Students	Generated Space	Inventory NASM	Inventory/ FTE Student	% I/G	*2001-02 % I/G*
Brock	13,667.6	16,811	10,841	0.8	64.5	*66.8*
Carleton	19,204.6	23,622	15,013	0.8	63.6	*66.3*
Guelph	17,244.9	21,211	14,841	0.9	70.0	*70.1*
Lakehead	6,575.0	8,087	7,562	1.2	93.5	*93.6*
Laurentian	6,572.4	8,084	6,551	1.0	81.0	*114.8*
Laurentian (Algo)	733.9	903	820	1.1	90.9	*94.0*
Laurentian (Hear)	117.4	144	774	6.6	536.0	*468.9*
McMaster	20,459.5	25,165	21,324	1.0	84.7	*79.2*
Nipissing	3,831.4	4,713	3,628	0.9	77.0	*90.1*
OCAD	2,921.7	3,594	1,356	0.5	37.7	*85.0*
UOIT	1,729.8	2,128	2,602	1.5	122.3	
Ottawa	27,025.2	33,241	22,522	0.8	67.8	*79.4*
Queen's	17,954.7	22,084	18,046	1.0	81.7	*83.8*
Ryerson	20,683.6	25,441	17,304	0.8	68.0	*68.8*
Toronto (St. Grge)	42,850.7	52,706	47,093	1.1	89.4	*94.8*
Toronto (Miss)	7,414.2	9,119	6,806	0.9	74.6	*79.0*
Toronto (Scar)	7,280.4	8,955	5,429	0.7	60.6	*63.8*
Trent	6,379.0	7,846	7,435	1.2	94.8	*84.0*
Waterloo	20,607.2	25,347	20,193	1.0	79.7	*85.9*
Western	30,164.2	37,102	36,725	1.2	99.0	*97.3*
Wilfrid Laurier	11,426.1	14,054	11,184	1.0	79.6	*66.2*
Windsor	13,810.5	16,987	11,667	0.8	68.7	*73.8*
York (Keele)	37,973.8	46,708	32,419	0.9	69.4	*61.9*
York (Glen)	1,820.3	2,239	2,331	1.3	104.1	*133.8*
Total	338,448.2	416,291	324,465	1.0	77.9	*80.3*

Input Measure:	Total FTE Students (as defined in Appendix D).
Space Factor:	1.23 NASM
System Average:	0.96 (Actual Classroom inventory divided by Total FTE Students.)

Table 30

Class Lab Space (2): Generated Space and Inventory, 2004-05

	Class Lab Hours	Generated Space	Inventory NASM	% I/G	*2001-02 % I/G*
Brock	37,677.5	19,195	6,740	35.1	*53.8*
Carleton	68,908.5	42,652	18,351	43.0	*88.1*
Guelph	79,974.0	48,412	24,933	51.5	*54.4*
Lakehead	18,097.0	9,988	12,182	122.0	*117.6*
Laurentian	10,741.5	6,102	6,900	113.1	*116.0*
Laurentian (Algo)	2,329.0	1,042	674		*77.2*
Laurentian (Hear)	1,776.0	653	713	109.3	*100.0*
McMaster	60,037.0	31,378	19,761	63.0	*75.9*
Nipissing	23,403.0	11,775	3,376	28.7	*31.4*
OCAD	31,794.0	19,076	8,948	46.9	*47.5*
UOIT	3,576.0	2,256	3,110	137.9	
Ottawa	49,328.0	26,986	19,537	72.4	*73.5*
Queen's	51,602.5	30,475	23,731	77.9	*86.6*
Ryerson	77,536.0	41,216	33,562	81.4	*82.8*
Toronto (St. Grge)	82,274.0	49,518	44,689	90.2	*114.1*
Toronto (Miss)	10,291.0	5,530	6,590	119.2	*124.0*
Toronto (Scar)	10,346.0	6,074	4,516	74.4	*112.2*
Trent	16,216.0	8,365	3,781	45.2	*47.9*
Waterloo	59,869.0	33,980	25,120	73.9	*81.8*
Western	89,752.0	51,121	32,196	63.0	*70.7*
Wilfrid Laurier	16,238.5	8,141	5,152	63.3	*66.6*
Windsor	28,055.0	15,267	15,748	103.2	*103.8*
York (Keele)	57,874.0	31,379	19,940	63.5	*73.9*
York (Glen)	1,865.5	560	650	116.1	*154.2*
Total	889,561.0	501,137	340,899	68.0	*79.2*

Note: The Inventory NASM figures do not necessarily agree with the Lab-Undergraduate figures on Table 2, at some institutions. Only Class Labs that are associated with Groups W to Z are included in this table.

Input Measure: Total Laboratory Weekly Student Contact Hours (as defined in Appendix D) for programs in Groups W, X, Y, and Z (as defined in Appendix E).

System Average, Space Factor:	System Average	Space Factor
Group W:	0.52	0.80
Group X:	0.41	0.60
Group Y:	0.28	0.50
Group Z:	0.23	0.30

Actual Class Lab inventory divided by Class Lab Hours (weighted average as defined in Input Measure).

Table 31

Lab - Research Facilities (3): Generated Space and Inventory, 2004-05

	Research Staff	Generated Space	Inventory NASM	Inventory/ Research Staff	% I/G	2001-02 % I/G
Brock	1,041.1	11,932	6,975	6.7	58.5	110.7
Carleton	2,025.0	23,737	13,938	6.9	58.7	64.9
Guelph	1,895.7	48,535	47,105	24.8	97.1	109.8
Lakehead	509.8	7,190	5,198	10.2	72.3	76.4
Laurentian	623.6	7,866	6,315	10.1	80.3	75.4
Laurentian (Algo)	60.5	631	69	1.1	n/a	
Laurentian (Hear)	29.5	169	14	0.5	n/a	
McMaster	2,391.0	52,122	44,627	18.7	85.6	93.8
Nipissing	219.8	1,296	598	2.7	46.1	17.2
OCAD	146.4	1,523	28	0.2	1.8	
UOIT	22.0	859	1,688	76.7	n/a	
Ottawa	2,753.9	42,178	28,862	10.5	68.4	75.2
Queen's	2,226.0	41,691	38,045	17.1	91.3	95.0
Ryerson	1,142.9	13,365	9,050	7.9	67.7	54.3
Toronto (St. Grge)	7,932.3	131,962	91,729	11.6	69.5	79.2
Toronto (Miss)	376.3	6,886	6,964	18.5	101.1	120.3
Toronto (Scar)	259.2	4,298	4,496	17.3	104.6	100.2
Trent	398.7	5,397	4,639	11.6	86.0	65.8
Waterloo	2,336.3	44,531	41,573	17.8	93.4	76.6
Western	3,472.6	58,831	39,396	11.3	67.0	63.9
Wilfrid Laurier	799.6	4,886	4,703	5.9	96.3	60.0
Windsor	1,128.2	16,693	14,104	12.5	84.5	94.6
York (Keele)	3,788.7	30,057	20,310	5.4	67.6	55.2
York (Glen)	186.2	525	187	1.0	35.5	52.4
Total	35,765.0	557,159	430,612	12.0	77.3	80.8

Note: The Inventory NASM figures do not necessarily agree with the Lab-Grad & Faculty figures on Table 2, at some institutions. Only Research Labs that are associated with Groups A to E are included in this table.

Input Measure: Research Staff is calculated by summing the total of FTE Faculty plus one-half Graduate Students plus one-half Other Research Appointments in Research Disciplines (as defined in Appendix C).

System Average, Space Factor		System Average	Space Factor
	Group A:	34.5	45
	Group B:	24.2	30
	Group C:	12.5	20
	Group D:	7.6	10
	Group E:	0.9	1

Actual Research space divided by Research Staff (weighted average as defined in Input Measure).

Table 32

Academic Departmental Office Space and Related Space (4): Generated Space and Inventory, 2004-05

	FTE Faculty	Generated Space	Inventory NASM	% I/G	*2001-02 % I/G*
Brock	651.7	22,149	12,858	58.1	*73.6*
Carleton	767.1	31,775	29,358	92.4	*99.2*
Guelph	847.3	32,875	34,322	104.4	*123.8*
Lakehead	304.9	9,676	8,082	83.5	*77.4*
Laurentian	467.2	12,654	9,343	73.8	*97.7*
Laurentian (Algo)	65.8	1,278	539	42.2	*176.6*
Laurentian (Hear)	22.5	762	489	64.2	*87.0*
McMaster	1,071.2	53,069	41,002	77.3	*84.6*
Nipissing	166.1	4,470	2,224	49.8	*46.3*
OCAD	146.4	2,888	1,316	45.6	*48.7*
UOIT	22.0	509	2,173	427.2	
Ottawa	1,130.0	50,808	45,314	89.2	*104.3*
Queen's	823.8	47,753	54,165	113.4	*102.1*
Ryerson	849.3	25,289	16,889	66.8	*78.0*
Toronto (St. Grge)	2,249.3	146,201	117,548	80.4	*86.6*
Toronto (Miss)	239.4	7,517	6,786	90.3	*95.1*
Toronto (Scar)	223.5	5,671	5,491	96.8	*84.1*
Trent	277.8	8,111	7,216	89.0	*70.7*
Waterloo	1,013.2	47,602	43,443	91.3	*88.8*
Western	1,498.7	76,632	58,496	76.3	*73.7*
Wilfrid Laurier	455.0	15,414	11,252	73.0	*80.4*
Windsor	533.0	21,244	19,625	92.4	*106.4*
York (Keele)	1,905.5	68,278	54,008	79.1	*83.9*
York (Glen)	174.5	4,079	3,147	77.1	*126.5*
Total	15,905.3	696,704	585,085	84.0	*89.5*

Input Measure:	Total FTE Faculty (as defined in Appendix D) plus 15%, total Other Research Appointments, total FTE Non-Academic Staff requiring offices, and total FTE Graduate Students.
Space Factor:	13 NASM per FTE Faculty, Other Research Appointments and FTE Non-Academic Staff, Faculty Supplement = 15% of FTE Faculty, 4 NASM per FTE Graduate Student, plus 25% allowance for office support space.
System Average:	36.8 NASM per FTE Faculty. (Actual Space for Faculty, Other Research Appointments, Graduate Students, and non-academic departmental staff (including service space) divided by Total FTE Faculty.

Table 32A

Graduate Student Office Space (4.3): Generated Space and Inventory, 2004-05

	Graduate Students	Generated Space	Inventory NASM	% I/G	*2001-02 % I/G*
Brock	690.8	2,763	666	24.1	*47.6*
Carleton	2,415.3	9,661	4,503	46.6	*63.4*
Guelph	1,957.7	7,831	6,910	88.2	*104.0*
Lakehead	393.2	1,573	1,411	89.7	*85.4*
Laurentian	284.5	1,138	435	38.2	*93.4*
Laurentian (Algo)		not applicable			
Laurentian (Hear)		not applicable			
McMaster	2,350.5	9,402	5,538	58.9	*65.8*
Nipissing	107.4	430	0	not applicable	
OCAD		not applicable			
UOIT		not applicable			
Ottawa	3,234.8	12,939	4,857	37.5	*37.1*
Queen's	2,692.9	10,772	8,233	76.4	*69.3*
Ryerson	518.0	2,072	746	36.0	*86.5*
Toronto (St. Grge)	10,479.3	41,917	17,176	41.0	*43.5*
Toronto (Miss)	247.8	991	856	86.3	*130.1*
Toronto (Scar)	52.3	209	905	432.4	*271.9*
Trent	214.0	856	582	68.0	*44.3*
Waterloo	2,419.7	9,679	11,804	122.0	*121.0*
Western	3,579.0	14,316	8,446	59.0	*56.1*
Wilfrid Laurier	689.1	2,756	391	14.2	*32.7*
Windsor	1,148.4	4,594	2,619	57.0	*88.7*
York (Keele)	3,572.6	14,290	6,239	43.7	*41.6*
York (Glen)	23.3	93	32	34.4	*30.8*
Total	37,070.6	148,282	82,347	55.5	*59.6*

Input Measure:	Total FTE Graduate Students.
Space Factor:	4 NASM
System Average:	2.2 NASM per Graduate Student. (Actual Space for Graduate Students (including service space) divided by Total Graduate Students.)

Table 33

Administrative Office Space (10): Generated Space and Inventory, 2004-05

	FTE Non-Acad. Office Staff	Space Generated	Inventory NASM	Inventory/ Office Staff	% I/G	*2001-02 % I/G*
Brock	354.0	6,903	6,872	19.4	99.6	*109.3*
Carleton	565.5	11,027	10,560	18.7	95.8	*106.6*
Guelph	591.2	11,529	17,904	30.3	155.3	*175.6*
Lakehead	379.2	7,394	4,154	11.0	56.2	*54.8*
Laurentian	217.6	4,243	4,366	20.1	102.9	*130.8*
Laurentian (Alg)	45.0	878	513	11.4	58.5	*121.9*
Laurentian (Hea)	9.0	176	218	24.2	124.1	*85.9*
McMaster	741.4	14,457	13,821	18.6	95.6	*102.2*
Nipissing	86.0	1,677	1,804	21.0	107.6	*98.9*
OCAD	105.4	2,055	1,675	15.9	81.5	*73.9*
UOIT	50.0	975	821	16.4	84.2	
Ottawa	630.0	12,285	17,124	27.2	139.4	*109.9*
Queen's	657.7	12,825	13,193	20.1	102.9	*104.3*
Ryerson	741.0	14,450	12,643	17.1	87.5	*110.1*
Toronto (St. Grge)	1,308.3	25,512	22,587	17.3	88.5	*108.0*
Toronto (Miss)	145.4	2,836	2,586	17.8	91.2	*110.4*
Toronto (Scar)	151.5	2,954	2,707	17.9	91.6	*96.6*
Trent	273.0	5,324	5,492	20.1	103.2	*119.2*
Waterloo	839.9	16,378	18,886	22.5	115.3	*120.8*
Western	1,313.0	25,604	21,561	16.4	84.2	*88.0*
Wilfrid Laurier	329.5	6,425	8,671	26.3	135.0	*134.1*
Windsor	456.0	8,892	8,014	17.6	90.1	*97.7*
York (Keele)	878.0	17,121	21,832	24.9	127.5	*98.6*
York (Glen)	24.0	468	1,051	43.8	224.6	*159.0*
Total	10,891.6	212,387	219,055	20.1	103.1	*107.4*

Input Measure:	Total FTE Non-Academic Office Staff requiring offices.
Space Factor:	13 NASM for FTE Non-Academic Office Staff, plus 50% allowance for office support space. (16.9 NASM including office support space.)
System Average:	20.1 NASM per Non-Academic Office Staff. (Total Actual Non-Academic Office Staff Space (including service space) divided by Non-Academic Staff.)

Table 34

Campus Study Space & Library Facilities (5): Generated Space and Inventory, 2004-05

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*2001-02 % I/G*
Brock	13,667.6	17,652	8,164	0.6	46.3	41.8
Carleton	19,204.6	27,375	15,187	0.8	55.5	64.7
Guelph	17,244.9	24,023	14,792	0.9	61.6	61.9
Lakehead	6,575.0	10,762	7,318	1.1	68.0	64.5
Laurentian	6,572.4	15,192	8,180	1.2	53.8	74.4
Laurentian (Algo)	733.9	1,769	1,578	2.2	89.2	130.6
Laurentian (Hear)	117.4	3,287	540	4.6	16.4	36.0
McMaster	20,459.5	32,250	26,089	1.3	80.9	92.3
Nipissing	3,831.4	4,986	2,200	0.6	44.1	52.2
OCAD	2,921.7	3,531	962	0.3	27.2	35.7
UOIT	1,729.8	2,328	3,621	2.1	155.6	n/a
Ottawa	27,025.2	40,169	24,673	0.9	61.4	64.3
Queen's	17,954.7	38,032	30,642	1.7	80.6	93.8
Ryerson	20,683.6	22,485	9,437	0.5	42.0	43.4
Toronto (St. Grge)	42,850.7	97,278	87,245	2.0	89.7	94.5
Toronto (Miss)	7,414.2	9,628	4,779	0.6	49.6	64.8
Toronto (Scar)	7,280.4	8,477	6,034	0.8	71.2	58.7
Trent	6,379.0	10,297	7,241	1.1	70.3	70.2
Waterloo	20,607.2	37,633	20,064	1.0	53.3	53.8
Western	30,164.2	49,654	34,645	1.1	69.8	75.3
Wilfrid Laurier	11,426.1	16,637	10,933	1.0	65.7	53.9
Windsor	13,810.5	24,560	16,636	1.2	67.7	76.5
York (Keele)	37,973.8	47,287	26,003	0.7	55.0	54.2
York (Glen)	1,820.3	3,791	1,842	1.0	48.6	47.2
Total	338,448.2	549,079	368,804	1.1	67.2	71.9

Input Measure:	Total FTE Students and Total Equivalent Volumes.
Space Factor:	0.6 NASM for FTE Students, from 0.004 NASM to 0.007 NASM for Equivalent Volumes, and 0.08 NASM for Student Computer Rooms, plus 25% allowance for service space.
System Average:	1.09 NASM per FTE Student. (Stack space for total volumes, study space for FTE students, computing space, and service space for the number of volumes and students) divided by Total FTE Students.

Table 34A

Campus Study Space and Student Computer Rooms (5.2 and 5.4): Generated Space and Inventory, 2004-05

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*2001-02 % I/G**
Brock	13,667.6	9,239	1,877	0.14	20.3	*18.2*
Carleton	19,204.6	12,866	984	0.05	7.6	*28.8*
Guelph	17,244.9	11,570	5,225	0.30	45.2	*45.9*
Lakehead	6,575.0	4,440	3,301	0.50	74.4	*63.3*
Laurentian	6,572.4	4,446	3,037	0.46	68.3	*123.5*
Laurentian (Algo)	733.9	499	287	0.39	57.6	*71.0*
Laurentian (Hear)	117.4	80	172	1.46	215.3	*123.1*
McMaster	20,459.5	13,724	5,599	0.27	40.8	*51.9*
Nipissing	3,831.4	2,597	245	0.06	9.4	*12.3*
OCAD	2,921.7	1,987	209	0.07	10.5	*13.2*
UOIT	1,729.8	1,176	2,059	1.19	175.0	*n/a*
Ottawa	27,025.2	18,118	5,450	0.20	30.1	*23.2*
Queen's	17,954.7	11,994	10,103	0.56	84.2	*120.4*
Ryerson	20,683.6	14,023	4,051	0.20	28.9	*26.2*
Toronto (St. Grge)	42,850.7	28,300	28,118	0.66	99.4	*103.6*
Toronto (Miss)	7,414.2	5,022	2,136	0.29	42.5	*62.7*
Toronto (Scar)	7,280.4	4,946	3,079	0.42	62.3	*55.7*
Trent	6,379.0	4,321	827	0.13	19.1	*22.6*
Waterloo	20,607.2	13,819	8,063	0.39	58.3	*57.2*
Western	30,164.2	20,225	11,668	0.39	57.7	*55.2*
Wilfrid Laurier	11,426.1	7,715	3,763	0.33	48.8	*49.0*
Windsor	13,810.5	9,299	6,414	0.46	69.0	*84.8*
York (Keele)	37,973.8	25,536	9,132	0.24	35.8	*31.2*
York (Glen)	1,820.3	1,236	496	0.27	40.1	*47.6*
Total	338,448.2	227,179	116,296	0.34	51.2	*56.6*

* In 2001-02 the % I/G figure was calculated based on categories 5.2 and 12.3.

Input Measure:	Total FTE Students and Total Equivalent Volumes.
Space Factor:	0.6 NASM for FTE Students, from 0.004 NASM to 0.007 NASM for Equivalent Volumes, and 0.08 NASM for Student Computer Rooms, plus 25% allowance for service space.
System Average:	0.34 NASM per FTE Student. (study space for FTE students, computing space, and service space for the number of students) divided by Total FTE Students.

Table 35

Recreation / Athletics Space (6): Generated Space and Inventory, 2004-05

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*2001-02 % I/G*
Brock	13,667.6	12,301	11,226	0.8	91.3	*84.4*
Carleton	19,204.6	17,284	13,768	0.7	79.7	*75.1*
Guelph	17,244.9	15,520	19,161	1.1	123.5	*148.0*
Lakehead	6,575.0	6,918	5,159	0.8	74.6	*79.1*
Laurentian	6,572.4	6,915	6,413	1.0	92.7	*125.3*
Laurentian (Algo)	733.9	2,661	3,261	4.4	122.6	*139.8*
Laurentian (Hear)	117.4	2,106	553	4.7	26.2	*26.4*
McMaster	20,459.5	18,414	9,303	0.5	50.5	*65.4*
Nipissing	3,831.4	5,448	2,549	0.7	46.8	*59.6*
OCAD	2,921.7	4,630	not applicable			
UOIT	1,729.8	3,557	1,282	0.7	36.0	
Ottawa	27,025.2	24,323	14,310	0.5	58.8	*65.6*
Queen's	17,954.7	16,159	14,016	0.8	86.7	*97.7*
Ryerson	20,683.6	18,615	6,158	0.3	33.1	*41.3*
Toronto (St. Grge)	42,850.7	38,566	24,268	0.6	62.9	*74.3*
Toronto (Miss)	7,414.2	7,673	2,406	0.3	31.4	*42.6*
Toronto (Scar)	7,280.4	7,552	4,171	0.6	55.2	*72.4*
Trent	6,379.0	6,741	3,891	0.6	57.7	*62.1*
Waterloo	20,607.2	18,546	12,959	0.6	69.9	*77.7*
Western	30,164.2	27,148	16,024	0.5	59.0	*68.4*
Wilfrid Laurier	11,426.1	10,283	6,499	0.6	63.2	*77.8*
Windsor	13,810.5	12,429	10,271	0.7	82.6	*103.5*
York (Keele)	37,973.8	34,176	12,438	0.3	36.4	*33.2*
York (Glen)	1,820.3	3,638	2,846	1.6	78.2	*87.7*
Total	338,448.2	321,603	202,931	0.6	63.1	*72.6*

Input Measure:	Total FTE Students (as defined in Appendix D).
Space Factor:	0.9 NASM
System Average:	0.60 NASM per FTE Student. (Total Actual Physical Education/Athletics space divided by Total FTE students.).

Table 36

Maintenance Space (9): Generated Space and Inventory, 2004-05

	NASM Inventory	Generated Space	Inventory NASM	% I/G	*2001-02 % I/G*
Brock	125,428.0	1,881	1,224	65.1	*101.4*
Carleton	190,299.2	2,854	2,035	71.3	*68.4*
Guelph	330,701.9	4,961	5,065	102.1	*99.0*
Lakehead	96,787.4	1,452	1,153	79.4	*89.9*
Laurentian	83,606.3	1,254	1,565	124.8	*130.5*
Laurentian (Algo)	12,273.1	184	341	185.2	*178.8*
Laurentian (Hear)	5,886.8	88	191	216.5	*237.9*
McMaster	327,860.0	4,918	4,979	101.2	*107.6*
Nipissing	44,887.5	673	not applicable		
OCAD	17,656.2	265	184	69.3	*44.7*
UOIT	24,263.0	364	916	251.7	
Ottawa	266,826.2	4,002	2,846	71.1	*24.2*
Queen's	317,575.5	4,764	2,089	43.9	*60.7*
Ryerson	148,313.3	2,225	2,389	107.4	*113.4*
Toronto (St. Grge)	634,966.3	9,524	7,871	82.6	*83.8*
Toronto (Miss)	72,481.9	1,087	671	61.7	*74.3*
Toronto (Scar)	57,398.2	861	645	74.9	*161.9*
Trent	67,954.0	1,019	423	41.5	*47.7*
Waterloo	355,684.7	5,335	6,367	119.3	*133.6*
Western	453,252.0	6,799	5,705	83.9	*105.1*
Wilfrid Laurier	135,528.0	2,033	1,144	56.3	*71.4*
Windsor	144,455.0	2,167	1,570	72.5	*94.4*
York (Keele)	323,786.8	4,857	3,788	78.0	*93.3*
York (Glen)	23,694.6	355	300	84.5	*96.4*
Total	4,261,565.8	63,923	53,462	83.6	*90.0*

Input Measure:	Total NASM Inventory (excluding 16.0 Non-Assignable).
Space Factor:	0.015 NASM
System Average:	0.013 NASM (Total Actual Maintenance space divided by Total NASM Inventory.)

Table 37

Student and Central Services Space (7-8, 11-15): Generated Space and Inventory, 2004-05

	FTE Students	Generated Space	Inventory NASM	Inventory / FTE Students	% I/G	*2001-02 % I/G*
Brock	13,667.6	27,335	15,151	1.1	55.4	*52.0*
Carleton	19,204.6	38,409	18,319	1.0	47.7	*57.4*
Guelph	17,244.9	34,490	19,749	1.1	57.3	*68.8*
Lakehead	6,575.0	13,150	10,113	1.5	76.9	*89.0*
Laurentian	6,572.4	13,145	9,062	1.4	68.9	*121.6*
Laurentian (Algo)	733.9	1,468	966	1.3	65.8	*91.5*
Laurentian (Hear)	117.4	235	899	7.7	383.0	*448.1*
McMaster	20,459.5	40,919	32,536	1.6	79.5	*66.7*
Nipissing	3,831.4	7,663	2,835	0.7	37.0	*48.4*
OCAD	2,921.7	5,843	2,992	1.0	51.2	*34.0*
UOIT	1,729.8	3,460	2,140	1.2	61.9	
Ottawa	27,025.2	54,050	21,914	0.8	40.5	*51.7*
Queen's	17,954.7	35,909	27,858	1.6	77.6	*85.8*
Ryerson	20,683.6	41,367	15,987	0.8	38.6	*46.4*
Toronto (St. Grge)	42,850.7	85,701	54,840	1.3	64.0	*73.5*
Toronto (Miss)	7,414.2	14,828	6,989	0.9	47.1	*66.3*
Toronto (Scar)	7,280.4	14,561	6,577	0.9	45.2	*52.7*
Trent	6,379.0	12,758	7,094	1.1	55.6	*65.8*
Waterloo	20,607.2	41,214	31,775	1.5	77.1	*92.5*
Western	30,164.2	60,328	34,644	1.1	57.4	*65.4*
Wilfrid Laurier	11,426.1	22,852	13,896	1.2	60.8	*68.7*
Windsor	13,810.5	27,621	17,386	1.3	62.9	*78.2*
York (Keele)	37,973.8	75,948	34,094	0.9	44.9	*52.7*
York (Glen)	1,820.3	3,641	3,331	1.8	91.5	*120.9*
Total	338,448.2	676,896	391,146	1.2	57.8	*67.1*

Input Measure:	Total FTE Students (as defined in Appendix D).
Space Factor:	2.0 NASM
System Average:	1.16 NASM per FTE Student. (A rounded total of recommended space factor ranges for the actual individual student central services categories divided by Total FTE Students.)

Table 38

Research/Teaching/Academic Support Space (1,2,3,4,5,10): Generated Space and Inventory, 2004-05

	Generated Space	Inventory NASM	% I/G	*2001-02 I/G*
Brock	94,641.1	52,450.2	55.4	67.0
Carleton	160,188.0	102,406.8	63.9	80.1
Guelph	186,585.5	153,897.5	82.5	90.5
Lakehead	53,096.7	44,495.2	83.8	81.8
Laurentian	54,140.5	41,653.2	76.9	95.0
Laurentian (Algo)	6,499.9	4,193.5	64.5	112.4
Laurentian (Hear)	5,190.8	2,748.2	52.9	82.8
McMaster	208,442.3	166,622.7	79.9	87.5
Nipissing	28,915.8	13,829.0	47.8	49.1
OCAD	32,666.3	14,285.0	43.7	51.3
UOIT	9,053.6	14,015.0	154.8	
Ottawa	205,665.6	158,032.1	76.8	83.8
Queen's	192,860.7	177,822.0	92.2	94.6
Ryerson	142,244.7	98,883.5	69.5	73.0
Toronto (St. Grge)	503,176.4	410,890.2	81.7	90.9
Toronto (Miss)	41,515.5	34,510.9	83.1	93.9
Toronto (Scar)	36,429.3	28,673.7	78.7	81.1
Trent	45,338.9	35,804.0	79.0	72.2
Waterloo	205,470.4	169,279.7	82.4	80.1
Western	298,942.8	223,019.5	74.6	75.9
Wilfrid Laurier	65,558.2	51,895.5	79.2	72.4
Windsor	103,641.8	85,794.1	82.8	91.1
York (Keele)	240,829.3	174,511.8	72.5	70.1
York (Glen)	11,662.2	9,207.1	78.9	95.6
Total	2,932,756.4	2,268,920.3	77.4	82.8

A comparison of the Total Generated Space and existing Inventory in Research/Teaching and Academic support categories.

Table 39

Student Experience / Other Space (6,7,8,9,11,12,13,14,15): Generated Space and Inventory, 2004-05

	Generated Space	Inventory NASM	% I/G	*2001-02 I/G*
Brock	41,517.5	27,600.9	66.5	64.1
Carleton	58,547.9	34,121.4	58.3	63.2
Guelph	54,970.9	43,975.3	80.0	93.9
Lakehead	21,519.4	16,425.4	76.3	85.8
Laurentian	21,314.2	17,039.7	79.9	123.6
Laurentian (Algo)	4,312.4	4,568.5	105.9	125.9
Laurentian (Hear)	2,428.8	1,643.2	67.7	70.8
McMaster	64,250.5	46,818.1	72.9	69.9
Nipissing	13,784.3	5,383.5	39.1	50.5
OCAD	10,737.8	3,175.2	29.6	18.2
UOIT	7,380.4	4,338.0	58.8	
Ottawa	82,375.5	39,070.2	47.4	54.2
Queen's	56,832.3	43,962.7	77.4	87.0
Ryerson	62,207.1	24,534.0	39.4	47.9
Toronto (St. Grge)	133,791.5	86,979.8	65.0	74.6
Toronto (Miss)	23,588.4	10,066.7	42.7	58.8
Toronto (Scar)	22,974.1	11,393.5	49.6	64.0
Trent	20,518.4	11,408.0	55.6	63.5
Waterloo	65,096.2	51,101.3	78.5	91.9
Western	94,275.0	56,373.0	59.8	69.0
Wilfrid Laurier	35,168.6	21,539.6	61.2	71.5
Windsor	42,217.3	29,226.3	69.2	86.6
York (Keele)	114,980.8	50,319.1	43.8	48.8
York (Glen)	7,634.3	6,476.5	84.8	102.6
Total	1,062,423.4	647,539.9	60.9	70.3

A comparison of the Total Generated Space and existing Inventory in Research/Teaching and Academic support categories.

Table 40

Total Space (1-15): Generated Space and Inventory, 2004-05

	FTE Students	Generated Space	Generated per FTE	Inventory NASM	Inventory per FTE	% I/G	*2001-02 I/G*
Brock	13,667.6	136,158.6	10.0	80,051	5.9	58.8	*66.1*
Carleton	19,204.6	218,736.0	11.4	136,528	7.1	62.4	*75.4*
Guelph	17,244.9	241,556.4	14.0	197,873	11.5	81.9	*91.2*
Lakehead	6,575.0	74,616.1	11.3	60,921	9.3	81.6	*82.9*
Laurentian	6,572.4	75,454.7	11.5	58,693	8.9	77.8	*102.3*
Laurentian (Algo)	733.9	10,812.3	14.7	8,762	11.9	81.0	*118.5*
Laurentian (Hear)	117.4	7,619.6	64.9	4,391	37.4	57.6	*77.0*
McMaster	20,459.5	272,692.8	13.3	213,441	10.4	78.3	*83.4*
Nipissing	3,831.4	42,700.2	11.1	19,213	5.0	45.0	*49.5*
OCAD	2,921.7	43,404.0	14.9	17,460	6.0	40.2	*42.4*
UOIT	1,729.8	16,434.0	9.5	18,353	10.6	111.7	*n/a*
Ottawa	27,025.2	288,041.1	10.7	197,102	7.3	68.4	*75.9*
Queen's	17,954.7	249,693.0	13.9	221,785	12.4	88.8	*92.9*
Ryerson	20,683.6	204,451.8	9.9	123,418	6.0	60.4	*65.3*
Toronto (St. Grge)	42,850.7	636,967.9	14.9	497,870	11.6	78.2	*87.4*
Toronto (Miss)	7,414.2	65,103.9	8.8	44,578	6.0	68.5	*81.6*
Toronto (Scar)	7,280.4	59,403.4	8.2	40,067	5.5	67.4	*74.8*
Trent	6,379.0	65,857.3	10.3	47,212	7.4	71.7	*69.8*
Waterloo	20,607.2	270,566.6	13.1	220,381	10.7	81.5	*82.7*
Western	30,164.2	393,217.8	13.0	279,392	9.3	71.1	*74.2*
Wilfrid Laurier	11,426.1	100,726.8	8.8	73,435	6.4	72.9	*72.1*
Windsor	13,810.5	145,859.1	10.6	115,020	8.3	78.9	*89.8*
York (Keele)	37,973.8	355,810.1	9.4	224,831	5.9	63.2	*63.5*
York (Glen)	1,820.3	19,296.5	10.6	15,684	8.6	81.3	*98.4*
Total	338,448.2	3,995,179.8	11.8	2,916,460	8.6	73.0	*79.6*

A comparison of the Total Generated Space and existing Inventory in categories 1 through 15 per FTE Student.

Section 5

APPENDICES

Appendix A: Space Classification Scheme, Formula and Measures

Appendix B: COU Space Standards

Appendix C: List of Input Measures

Appendix D: Definitions

Appendix E: Program Classification Scheme

Appendix F: Calendar of Pertinent Information / Publications

Appendix A: Space Classification Scheme, Formula and Measures
Table of Contents

Formula Space

Category 1: Classroom Facilities 105
Category 2: Laboratory - Undergraduate 108
Category 3: Research Laboratory Space (Graduate & Faculty) 111
Category 4: Academic Departmental Offices and Related Space 113
Category 5: Campus Study Space and Library Facilities 116
Category 6: Athletic/Recreation Space 120
Category 9: Plant Maintenance 122
Category 10: Administrative Office and Related Space 123

Student and Central Services 124
Category 7: Food Service 125
Category 8: Bookstore and Other Merchandising Facilities 125
Category 11: Audio-Visual / Television Facilities 126
Category 12: Central Services 126
Category 13: Health Service Facilities 127
Category 14: Common Use and Student Activity Space 127
Category 15: Assembly and Exhibition Facilities 128

Non-Assignable Space

Category 16: Non-Assignable Space 129

Non-Formula Space

Category 17: Residential Space 130
Category 18: Animal Space 130
Category 19: Other University Facilities 131
Category 20: Health Science Clinical Facilities 131

Category 1: CLASSROOM FACILITIES

Definition

A room primarily used for scheduled teaching purposes which does not require special equipment of a kind that makes the room unsuitable for classroom instruction (i.e., laboratory benches) and rooms directly serving such facilities.

Subcategories

1.1 Tiered Classrooms

Tiered or sloped-floored lecture theatres, lecture rooms, lecture demonstration rooms, and classrooms.

1.2 Non-Tiered Classrooms

Flat-floored lecture rooms, classrooms, seminar rooms, and tutorial rooms.

1.3 Classroom Service Space

Examination rooms, projection rooms, preparation rooms, closets, storage rooms, and other related areas.

Formula

The formula for generating classroom facilities including service space is as follows:

# of FTE Students x 1.23 NASM

(The FTE count is consistent with the numbers reported in the USIS-UAR submission as of November 1.)

Formula Assumptions

The demand for space is proportional to the number of courses those students enrol in, multiplied by the number of hours per week of scheduled instruction that each course requires for academic credit. The unit of measurement is usually referred to as a weekly student contact hour (WSCH). The amount of space required to accommodate one WSCH is derived from three separate variables. These are:

A (Area) = 1.7 sq. m.
Average university classroom station size
The area (A) required for a single seat or desk, expressed in square metres. This value varies according to the type of furniture used. An average value was chosen to represent a mix of classroom types and a provision for classroom service space.

H = 30 to 34 hours per week
Room utilization standard for a room Monday – Friday, during a 57 hour week
The number of hours per week (H) that a classroom is expected to be used for scheduled instruction. This range represents a minimum utilization standard which will vary by room type, use, and program.

The number of hours increased from 45 to 57 hours per week to include 4 three-hour evening sessions per week.

S = 0.74 to 0.65 (i.e., 74% to 65% seats occupied when the room is used)
Station utilization standard when room is used.
The percentage of seats that are occupied (S) when the room is in use.

The product of the room utilization standard (H) and station weight (S) should produce a combined utilization co-efficient of 22.1. Therefore, H could be 30 and S could be 74%, or H could be 34 and S could be 65%. The classroom space formula is:

$$\text{NASM} / \text{WSCH} = A / (H \times S)$$

Assuming that the average weekly student contact hours is 16 hours (non-laboratory), that the A (area) value is 1.7, and that the H and S values are 34 and 0.65 respectively, then the space factor computed via formula is 1.23 sq. m..

$$\text{NASM} / \text{FTE Student} = \frac{1.7}{34 \times .65} \times 16 \text{ hours} = 1.23 \text{ NASM}$$

Comments

While the total amount of classroom space generated using the COU space factor is considered adequate, mismatches between class section size and the size of available classrooms are problems on many campuses.

Commencing with the 2001 report, the assumptions used in the classroom input measure were updated to reflect the way students are taught today. A classroom survey conducted in 1999 indicated that the station size needed to be increased from 1.4 NASM to 1.7 NASM. Also, following an examination of utilization rates, station occupancy was increased from 62% to 65% and the number of hours per week that a classroom is expected to be used was increased from 30 to 34 hours. These changes support findings reported in the 1988-89 joint COU – Ontario Ministry Working Group on University Space Utilization report entitled *Classroom Space Utilization in Ontario Universities 1988-89.*

Comparison of Unadjusted Standards / Guidelines for Classrooms (1999)

State	Hours/Week	Station Occupancy (%)	Area (NASF)
Alaska	30.0	60.0	16.0
Arizona	35.0	65.0	19.0
California	42.0	71.4	15.0
Colorado	30.0	67.0	15.0
Florida	40.0	60.0	22.0
Kansas	30.0	60.0	15.0
Kentucky	38.0	67.0	20.0
Louisiana	30.0	60.0	18.0
Maryland	30.0	70.0	17.6
Nebraska	30.0	65.0	16.0
New Hampshire	30.0	60.0	16.0
New York	30.0	60.0	20.0
North Carolina	35.0	65.0	18.0
Ohio	31.5	67.0	15.0
Oklahoma (3 terms)	60.0	80.0	16.0
Oregon	33.0	60.0	16.0
Tennessee	30.0	67.0	15.0
South Carolina	35.0	60.0	21.0
South Dakota	30.0	60.0	16.0
Texas	38.0	66.7	
Utah	34.0	66.7	17.0
Wisconsin	30.0	67.0	16.0
Wyoming	33.0	60.0	18.0
Ontario	34.0	65.0	18.3

Source: Survey of Space and Utilization Guidelines and Standards in the Fifty States. MGT Consultants. Exhibit 1.

Category 2: LABORATORY – UNDERGRADUATE

Definition

A room used for instruction of undergraduate students that requires special purpose equipment or is so arranged that use is restricted to a particular field of study; and rooms directly serving these facilities. Activities in these facilities would include student participation, experimentation, observation or practice in a field of study.

Subcategories

2.1 *Scheduled Class Laboratory Space*

Teaching laboratories, special subject rooms, instructional shops, drafting, art, dance and music studios, music practice rooms, language laboratories, and athletic facilities primarily used for instruction, and other specially designed rooms largely used for scheduled instruction, such as dental, rehabilitation, and psychology clinics.

2.2 *Unscheduled Class Laboratory Space*

This subcategory may be optionally used to classify general workrooms, studios, and other special-purpose facilities generally used for informal or irregularly scheduled instruction, or for practice.

2.3 *Laboratory (Instructional) Support*

Preparation rooms, balance rooms, laboratory storage rooms, demonstration rooms, animal areas, greenhouses, dark rooms, etc. directly serving the laboratory facilities.

Formula

The formula for generating undergraduate teaching facilities (including service space) is a four-part formula with a different space factor for each of four academic program groupings:

Laboratory space for specific group (W, X, Y, Z) = WSLabCH for group x Space factor for group (0.8, 0.6, 0.5, 0.3)

WSLabCH (i.e. **W**eekly **S**tudent **Lab**oratory **C**ontact **H**ours) is the input measure for this category. They are computed as the product of the course enrolment and the hours of scheduled instruction received by each student enrolled during a typical academic week.

Formula Assumptions

The instructional laboratory formula is based on the following assumptions:

- It is recognized that there are differences in space requirements between disciplines; consequently four space standards, dependent upon discipline groups (denoted W, X, Y, Z) are used.

  Examples of disciplines:
  Group W: Agriculture, Engineering, Vet. Medicine
  Group X: Chemistry, Fine Arts, Geology
  Group Y: Anthropology, Geography, Psychology
  Group Z: Commerce, Mathematics, Sociology

- Station areas associated with the groups W, X, Y and Z were derived over time from data reported by the universities in the Ontario system together with standards used in other jurisdictions. The space factors are based on bench areas and facility needs for the different disciplines. They include an allowance for preparation and storage space requirements.

- Space guidelines for teaching laboratories include a room utilization of 18 hours per week and 75% seat occupancy when in use. The relationship between the variables is described in the following table:

Group	Station Area (NASM) (incl. Service Space)	Utilization Rate Hours x Seat Util.	Space Factor NASM/ WSLabCH
W	10.80	18 x 0.75 = 13.5	0.8
X	8.10	18 x 0.75 = 13.5	0.6
Y	6.75	18 x 0.75 = 13.5	0.5
Z	4.05	18 x 0.75 = 13.5	0.3

$$\text{NASM per WSLabCH} = \frac{\text{Area per Station}}{\text{Scheduled Hours per Week} \times \text{Seat Utilization}}$$

Comments

The university timetable should be the primary source for deriving WSLabCH, augmented if needed by information in the university calendar.

There is unscheduled activity by groups or individuals for study or experimentation related to course work and assignments used for scheduled teaching and in other specially designed labs. However, this unscheduled use of labs is to be excluded from the contact hour count when determining laboratory facilities entitlement. It is assumed that the use of scheduled contact hours combined with an 18-hour room utilization rate will generate enough space to adequately accommodate these activities in the unscheduled hours.

For class labs that meet in multiple-use facilities, for example, in theatres used for both drama instruction and general university assembly, it may be necessary to prorate.

Comparison of Unadjusted Teaching Lab Standards / Guidelines (1999)

State	Contact Hours / Week	Station Occupancy (%)
Alaska	20.0	80.0
Arizona	25.0	85.0
California	25.0	80.0
Colorado	20.0	80.0
Florida	20.0	80.0
Kansas	20.0	80.0
Kentucky	23.0	80.0
Louisiana	20.0	80.0
Maryland	21.0	78.7
Nebraska	20.0	65.0
New Hampshire	18.0	70.0
New York	22.0	75.0
North Carolina	20.0	75.0
Ohio	22.5	80.0
Oklahoma	48.0	80.0
Oregon	16.0	75.0
Pennsylvania	26.0 / 24.0	80.0
South Carolina	16.0 / 18.0	75.0
Tennessee	18.0	80.0
South Dakota	20.0	85.0
Texas	25.0	80.0
Utah	22.5	80.0
Washington	20.0	80.0
Wisconsin	24.0	80.0
Wyoming	20.0	75.0
Ontario	18.0	75.0

Source: Survey of Space and Utilization Guidelines and Standards in the Fifty States. MGT Consultants. Exhibit 2.

Category 3: RESEARCH LABORATORY SPACE (Graduate & Faculty)

Definition

A room used for laboratory applications, research or training in research methodology that requires special-purpose equipment for staff or graduate student experimentation or observation, and preparation, service, and other rooms directly serving these facilities.

Subcategory

3.1 Laboratory Space

Faculty, graduate, and general research facilities.

3.2 Laboratory (faculty and graduate) Support Space

Rooms directly serving one or more research facilities that directly provide the necessary support to the research functions such as balance rooms, coat rooms, storage areas, dark rooms, technicians' office/workrooms, workshops, animal areas, and greenhouses.

3.3 Research Project Space

Space used by technicians, other professional staff (including those conducting research, their assistants and those providing background support to these researchers), upper year undergraduate students who perform the work of graduate students (and require office space), and research project room (includes non-academic staff, professional academic and technicians who support the research of a faculty member as principal investigator).

Formula

The formula for generating research laboratory facilities (including service space) is a five-part formula with a different space factor for each of five academic program groupings:

Research space for specific group (Group A, B, C, D, E)	=	Count	x	Space Factor for group (45, 30, 20, 10, 1)

where COUNT = # FTE Faculty + (50% # non-faculty researchers) + (50% # FTE graduate students)

Formula Assumptions

- It is recognized that there are differences in space requirements between disciplines; consequently, five space standards (denoted A, B, C, D, and E) are used.

  Examples of disciplines:

Group A	Chemistry, Dentistry, Geology
Group B	Civil Engineering, Forestry, Metallurgy
Group C	Anthropology, Electrical Engineering, Geography (Physical)
Group D	Geography (Human), Kinesiology (Arts), Fine Art
Group E	English, Mathematics, Sociology

- Station areas (i.e. space factors) associated with the groups A, B, C, D, and E were derived over time from data reported by the universities in the Ontario system together with standards from other jurisdictions.

- The formula assumes a direct relationship, which is consistent throughout all disciplines within an academic grouping, between the numbers of faculty, other researchers and graduate students associated with a department and the amount of research being done by that department.

Comments

Group E generates 1 NASM per Input Measure to provide sufficient research or equivalent to research space which may be allocated as additional computer or other dedicated work space for use by academic departments.

Some universities have large research facilities that are used by other universities or non-university researchers. In the reporting of the inventory, this space is pro-rated, with the portion used for non-institutional purposes classified in Category 19.

Category 4: ACADEMIC DEPARTMENTAL OFFICES AND RELATED SPACE

Definition

A room usually assigned to one or more individuals on a permanent basis, containing office-type equipment and used by faculty, departmental administrative and support staff, and students, or a room directly serving these facilities.

Subcategories

4.1 Faculty Offices

Single or multiple-occupancy offices for teaching and research faculty with rank up to and including department chairs, deans, vice deans and associate deans including their immediate support personnel.

4.2 Other Academic Appointments Offices

Office space used by postdoctoral fellows, visiting professors, adjuncts and other research staff, not holding a regular faculty appointment.

4.3 Graduate Student Offices

Single or multiple-occupancy rooms assigned to graduate students for study and to graduate and undergraduate students in their capacity as tutors, teaching or research assistants.

4.4 Departmental Support Staff Offices

Office space used by demonstrators, technicians, other professional staff, administrative, clerical and secretarial support staff to academic departments.

4.5 Office Support Space

Rooms directly serving office space in this category such as conference rooms, computer rooms not for student use, special reference libraries, file rooms, vaults, photocopy rooms, waiting and reception areas, interview rooms, storage areas, private toilets, lunchrooms, and private departmental lounges.

Formula

The formula for generating academic departmental office facilities has four components:

Faculty	((# FTE Faculty x 13 sq m)+ ((# FTE Faculty x .15)+Other Research Appointments) x 13 NASM)
Non-Academic Staff	# FTE Non-Academic Staff requiring offices x 13 NASM
Graduate Students	# FTE Graduate Students x 4 NASM
Office Support Space	25% of the total space generated for faculty, administrative staff and graduate students

Formula Assumptions

In recognition of the disparity between the FTE faculty count of an institution and the requirement to provide some office accommodation to other academics who would not be fully represented by the FTE count (cross-appointments, part-time appointments, professors emeriti, status only appointments, visiting scholars, stipend staff, faculty on sabbaticals who remain on campus, etc.), the FTE faculty input measure is supplemented by 15%. Commencing with the 2001 report, the FTE count for Other Research Appointments has been added to the Input Measure for the faculty supplement.

Although 12 NASM is the accepted planning standard for a typical single office, a space factor of 13 NASM is used in the formula - to recognize existing office configurations, especially in older university buildings, where the average office size is larger. Further, it is recognized that deans and chairs are usually allocated larger offices than the average.

The standard for non-academic staff offices is based on the same average office size used for academic staff. Although the layout of the spaces may be different, it is assumed that the requirement for space is the same. Library staff and staff of ancillary units are excluded from the FTE count as their office/work space is inventoried in other categories.

The graduate student office standard is based on the assumption that all graduate students generate office type space. This is in addition to the space they generate in the research laboratory category and the campus study space & library category.

The requirement for office support space is directly related to the number of faculty, staff and graduate students in an institution.

That 25% of the total entitlement for office facilities represents an average across all departments.

The space generated under the formula is to accommodate a wide range of activities from photocopiers and file storage to conference rooms, departmental lounges, and resource rooms.

Comments

Many older buildings in the Ontario system have been built with larger offices than the standard. For these institutions, the total amount of space inventoried, when measured against the space generated by the formula, may appear adequate but there will be too few office units.

Library office space is not included in this category because it is often difficult to distinguish what area is strictly office space and what area is library service for referencing, cataloguing and distributing books. The library service space formula covers this requirement.

Non-academic office space is calculated based on the FTE of non-academic staff as the institutional ratios of non-academic staff to faculty (and students) are quite variable.

FTE faculty and student data are readily collectible and verifiable but there is no equivalent data base for non-academic staff. There is a need to improve the collection of non-academic staff data at the system level.

Due to a lack of office space at individual institutions, the ability to provide offices for graduate students is a matter of institutional policy; in some cases only doctoral students or teaching assistants are assigned office space.

Category 5: CAMPUS STUDY SPACE & LIBRARY FACILITIES

Definition

A room or group of rooms used for the acquisition, processing, storage, circulation, study, or use of books, periodicals, manuscripts and other media of published information not necessarliy under the administration of the university library system and accessible to the university population at large and rooms directly serving these facilities.

Subcategories

5.1 Library Collection Space

Stack and storage areas for books, archives, maps, documents, records, tapes, slides, micromaterials, periodicals, electronic volumes, and music scores.

5.2 Study Space

Reading rooms, study carrels, open-stack reading rooms, and study areas available to the general university population. Study area rooms located in facilities administered by the university library system or in residences or academic departments.

5.3 Library Support Areas

Office and related areas for library administration, catalogue area, circulation desk, processing areas, bookbinding and repair areas, acquisition and cataloguing work areas, and library staff lounges.

5.4 Computer-Equipped Study Space

Electronically equipped computer rooms available for students for non-scheduled study. Included in this subcategory is space located within the library and space not located in the library.

Equivalent Volumes

An equivalent volume represents one bound volume. Other library materials are converted into bound volumes. Materials are given in terms of 125 bound volumes, since 125 bound volumes represents a standard stack – a single faced section with dimensions approximately 7.5 feet high, with six (6) or seven (7) shelves, 3 feet wide.

Material	Items	Units	Equivalency
Monograph Volumes – excluding Reference	125	# volumes	125
Reference	45	# volumes	125
Documents and Technical Reports	650	# reports	125
Archival Materials	6.4	linear metres	125
Serial Volumes - bound	125	paper copy	125
Serial Volumes – unbound (Current Periodicals)	50	paper copy	125
Maps	400	# sheets	125
Microfilm	250	# reels	125
Microfiche	10,500	# items	125
CD-ROM	575	# titles	125
Floppy Disks	1.925	# units	125
Magnetic Tape	125	# units	125
Learning Kits	45	# items	125
Audio-Visual Holdings	125	# titles	125
Slides	5,040	# slides	125
Printed Music	275	# scores	125

Source: Collaboration between the Ontario Council of Universities Libraries (OCUL) and COU Committee on Space Standards and Reporting. See Council of Ontario Universities' Users Guide page 2.4.3.4 for more details.

Formula: Study Space

The formula for generating study space is:

0.6 NASM / FTE students

Formula Assumptions

The formula assumes a carrel size of 2 NASM and enough study space to accommodate 30% of the student population *(2 x 0.3 = 0 .6 NASM/FTE student).*

The COU Committee on Space Standards and Reporting and OCUL agreed that there should be no differentiation in study space required between undergraduate, undergraduate professionals and graduate students. Therefore, commencing with the 2004 report, there is only one formula used (see above) to determine the NASM required per FTE student.
The COU Committee will continue to work with OCUL in monitoring the situation and refine this formula for the 2007 report.

Formula: Computer Study Space

The formula for generating computer study space is:

0.08 NASM x FFTE undergraduate student

Formula Assumptions

The space factor used is an average of the actual data received from the institutions for the 2004 Inventory of Physical Facilities of Ontario Universities report. This is an emerging category and therefore the space factor may change in future years.

Formula: Library Collection Space (Stack)

The formula for generating space for library collections is as follows:

For compact storage:

0.004 NASM per equivalent volume for actual % of total collection in compact storage

For remainder of collection:

0.007 NASM per equivalent volume for next 300,000 volumes

0.006 NASM per equivalent volume for next 300,000 volumes

0.005 NASM per equivalent volume for remainder of collection

Formula Assumptions

The collection space formula assumes that 125 bound volumes can be shelved on a standard stack unit, leaving 15% of the shelf space for sorting books when they are returned to the shelves. A standard stack is 2.28 m. high, 0.91 m. wide, 0.25 m. deep, and has 6 or 7 shelves. In Volume 6 of *Building Blocks*, it was determined that a standard stack unit occupied approximately 0.75 NASM, allowing approximately 1.1 m. for an aisle space. Therefore, one (1) volume would require 0.0059 NASM. An allowance of 0.004 NASM per volume in compact storage assumes an increase in density by approximately 66% to 207 volumes per standard shelving unit.

Formula: Library Support Areas

The formula for generating space for library service and support space is as follows:

0.25 x (area generated for Stack and Study space)

Formula Assumptions

The library support formula is based on the following assumption:

> The size of the collection and number of users are the two most significant factors affecting the number of staff required to assist in the circulation and handling of books, periodicals and other media of published information. The standard for support space has been based, therefore, on a fixed percentage of collection size and user population (the average was 25%).

Comments

The volume equivalencies were revised in 1995 and 2004 by the Ontario Council of University Libraries (OCUL).

Stack space may appear to exceed the standards if service space and non-assignable space such as phantom fire corridors are not reported as defined.

Graduate students also generate space in the office and research laboratory categories.

A trade-off between Stack and Study space is increasingly a part of library space management.

Category 6: ATHLETIC / RECREATION SPACE

Definition

All indoor areas used by students, staff, or the public for athletic activities, either for recreational or competitive purposes, and rooms directly serving these facilities.

Subcategories

6.1 Athletic Activity Areas

Gymnasia, dance studios, swimming pools, basketball, handball and squash courts, combative rooms, ice rinks, indoor tracks, indoor rifle and archery ranges, and activity areas including those within field houses.

6.2 Athletic Seating Areas

All permanent seating and observation areas in gymnasia, swimming pools, field houses, ice rinks, and other indoor activity areas.

6.3 Athletic Service Space

All ancillary areas directly serving the above such as locker rooms, shower rooms, washrooms, coaches' rooms, equipment supply rooms, and rooms serving athletic facilities.

Formula

0.9 NASM / FTE student, plus

2,000 NASM for institutions with less than 4,000 students

1,000 NASM for institutions with 4,000 to 8,000 students

Formula Assumptions

The space factor for recreation and athletic facilities assumes that the FTE student population is the primary user. The actual factor is derived from institutional averages. A sliding scale approach is used to ensure that smaller institutions generate sufficient space to cover a building of 4,000 NASM, the minimum area feasible to accommodate a pool, gymnasium and support space.

Comments

Assessing the adequacy of athletics and recreation space is a complex matter. Institutions are quite diverse in the match between generated space and inventories. Requirements for athletic and recreation space vary according to an institution's commitment to interuniversity athletics, the recreational interests of its students, the proportion of students in residence, the availability of other facilities in the community, and the mix of extracurricular activities with academic programs in Physical Education and related disciplines.

There may be errors in the reporting of athletics inventory that is primarily for community or academic program use. The definitions are clarified so that any specialized space used exclusively or almost exclusively for academic programs is reported in the class lab category.

Category 9: PLANT MAINTENANCE

Definition

Space associated with the operation and maintenance of university buildings, grounds, vehicles and other elements of the physical plant.

Subcategory

9.1 Plant Maintenance

Shops and storage areas for carpentry, plumbing, painting, electrical and other trades, lunch, locker and change rooms for maintenance and custodial staff, garages for maintenance vehicles and all ground equipment, greenhouses and related areas, and garages for storage and repair of vehicles and boats.

Formula

1.5% x Physical Plant Net Assignable Area *

* which is the sum of NASM categories 1-15 and 17-20

Category 10: ADMINISTRATIVE OFFICE AND RELATED SPACE

Definition

A room usually assigned to one or more individuals on a permanent basis containing office-type equipment and used by administrative and support staff, or a room directly serving these facilities.

Subcategories

10.1 Office Areas

Single or multiple-occupancy rooms for executives and administrative staff.

10.2 Office Support Space

Rooms directly serving office space in this category such as conference rooms, special reference libraries, file rooms, vaults, photocopy rooms, computer rooms for administrative use, waiting and reception areas, interview rooms, storage areas, private toilets, lunch rooms and private departmental lounges.

Formula

The formula for generating administrative office facilities has two components:

Offices:	# FTE Non-Academic Staff requiring offices x 13 sq. m.
Office Support Space:	50% of the total space generated for the Non-Academic Staff

Formula Assumption

The requirement for office support space is directly related to the number of non-academic staff requiring offices. Fifty percent of the total entitlement for office facilities represents an average across all departments. The space generated under the formula is to accommodate a wide range of activities from photocopiers and file storage to conference rooms, departmental lounges and resource rooms.

Categories 7, 8, 11, 12, 13, 14, 15: STUDENT AND CENTRAL SERVICES

Definition

Food services, bookstore and other merchandising facilities, audiovisual / television facilities, central services, health service facilities, common use and study activity space, and assembly & exhibition facilities have been combined into **Student and Central Services** for the purpose of calculating space entitlement. This allows an institution to trade off a need for facilities in one area with those in a related category.

Formula

FTE x 2.0 NASM

The following range of values are suggested for each category, which reflect the use of space in the Ontario universities:

Category #	Category Name	NASM / FTE student
7	Food Service	0.50 to 0.70
8	Bookstore and Other Merchandising Facilities	0.10 to 0.20
11	Audiovisual / Television Facilities	0.05 to 0.10
12	Central Services	0.10 to 0.30
13	Health Service Facilities	0.03 to 0.05
14	Student Activity Space	0.50 to 0.70
15	Assembly and Exhibition Facilities	0.15 to 0.40

Category 7: FOOD SERVICE

Definition

A room or group of rooms that are used for preparing or eating food or which directly serve these facilities including central facilities located in residences and faculty clubs, whether operated by the university or an external company.

Subcategories

7.1 Food Facilities

Dining rooms, cafeterias, snack bars, coffee shops, restaurants, vending machine and other refreshment areas primarily used for food service.

7.2 Food Facilities Service

Kitchen, servery, all food preparation areas, dishwashing areas, refrigeration and freezer rooms, kitchen storage rooms, receiving areas, refuse areas, and staff lunch, locker and private washrooms.

Category 8: BOOKSTORE AND OTHER MERCHANDISING FACILITIES

Definition

A room or group of rooms used to sell products or services, exclusively or primarily for the university population, and rooms directly serving these facilities.

Subcategory

8.1 Bookstore / Merchandising

For example: bookstores, Canada Post office, banks, travel agencies, other stores and associated service space operated by the university or commercial enterprise renting space from the university. Includes staff offices in support of these functions.

Category 11: AUDIOVISUAL / TELEVISION FACILITIES

Definition

A room or group of rooms used in the production, distribution and storage of non-print instructional media, and rooms directly serving these facilities, providing campus-wide rather than exclusively departmental services.

Subcategory

11.1 AV / TV Facilities

Radio, TV, sound, photography, and graphic studios, film and tape libraries, control rooms, storage rooms, recording rooms, repair and servicing work rooms, dark rooms, preparation rooms, and similar related areas.

Category 12: CENTRAL SERVICES

Definition

A room or group of rooms used to provide campus-wide services for both academic and non-academic sections of the university, and rooms directly serving these facilities.

Subcategories

12.1 Computing Facilities

Central data-processing facilities, computer rooms, technical service and repair areas and their support spaces.

12.2 Other Central Services

Central and regional printing and duplicating shops, central receiving areas, central stores, university mail rooms, laundry and drying rooms located in a central laundry, and technical service and repair areas.

Category 13: HEALTH SERVICE FACILITIES

Definition

A room or group of rooms intended to supply health services primarily to the general university population, and rooms directly serving these physical and wellness services facilities

Subcategory

13.1 Health Service Facilities

Infirmaries, first aid rooms, physiotherapy rooms, doctors' offices / examining rooms, their support areas, offices and related areas within health service facilities, and first-aid rooms located elsewhere and used for the general university.

Category 14: COMMON USE AND STUDENT ACTIVITY SPACE

Definition

A room or group of rooms accessible to the general university population intended for recreation, rest or relaxation, or rooms directly serving these facilities.

Subcategories

14.1 Student Offices and Support Space

Offices and support space for student government, publications, and clubs.

14.2 Recreational Facilities and Service

Bowling alleys, pool and billiard rooms, cinemas, television rooms, chess rooms, video games rooms, card playing areas, music-listening areas, hobby rooms, storage and equipment issue rooms and pubs.

14.3 Lounge and Service Space

All general lounge space and kitchenettes, whether for students, faculty, or administrative staff, lounges in residences if available to non-residents, and lounges in faculty clubs, including related service space.

Category 15: ASSEMBLY AND EXHIBITION FACILITIES

Definition

A room or group of rooms intended to serve the general university population and to be used for dramatic, musical, or devotional activities or for exhibition purposes, and rooms directly serving these facilities.

Subcategories

15.1 Assembly Facilities

Theatres, auditoria, concert halls, chapels, and convocation halls and ancillary areas such as coat rooms, ticket booths, concession booths, dressing rooms, projection rooms, checkrooms, storage and control rooms.

15.2 Exhibition Facilities

Museums, art galleries, other exhibition areas, greenhouses used for display only and supporting areas.

Category 16: NON-ASSIGNABLE SPACE

Definition

A room or area that is not available for assignment to the occupants of a building but that is necessary for the general occupation or mechanical support of one or a number of buildings.

Subcategories

16.1 Central Utility Plant

All boiler rooms, refrigeration plant, electrical transformer stations, cooling towers, compressing stations, water treatment facilities, recycling facilities, hazardous waste storage, incinerator, distribution systems, service tunnels and their support areas serving more than one building or the entire campus.

16.2 Other Non-Assignable Areas

Areas used or occupied by janitorial staff (janitors' closets), mechanical and electrical spaces, and incinerator serving one building, and public washrooms.

Circulation spaces required to provide general access within a building (i.e. corridors, stairwells, elevators) to a single room or work area (including their integral support areas) e.g. circulation space is required to provide general access such as fire corridors in office landscaped areas, escape routes in warehousing areas or large congested machine shops, or routes necessary to provide physical access to some subdivision or block of space. Loading docks and service tunnels not assigned to a specific department.

16.3 Inactive Unassignable

Spaces which would require long lead time and extensive work to make them available for occupancy such as those left unfinished at the time of construction or those undergoing major repairs or renovations, i.e. large areas of the building being out of service for many months.

16.4 Parking Structures

Category 17: RESIDENTIAL SPACE

Definition

A room or rooms used to accommodate one or more individuals and the ancillary areas in direct support of such rooms.

Subcategories

17.1 Residence Living Space

Single or multiple-occupancy bedrooms, apartments or other residential units (corridor).

17.2 Residence Service Space

Laundry rooms, recreational areas, music rooms, games rooms, locker rooms, lounges only available to occupants of that residence, tuck shops, washrooms in residential suites, and administrative offices in direct support of residential facilities.

Category 18: ANIMAL SPACE

Definition

Animal facilities in overall support of teaching or research and not normally integrated with or under the control of academic departments.

Subcategories

18.1 Specialized Central Areas

Rearing, conditioning, and holding facilities before animals are ready or required for teaching and research purposes as well as facilities for long-term holding and care of animals following surgical or other investigative treatment, located either on or off campus.

18.2 Farm-Type Areas

Barn structures, feed storage, and field service areas.

Category 19: OTHER UNIVERSITY FACILITIES

Definition

Any room or area not included in Categories 1 through 18.

Subcategories

19.1 Day Care Facilities

19.2 Rifle Ranges and Other Space in Support of Military Training

19.3 Merchandising Facilities Not Exclusively or Primarily Serving the University Population

19.4 Demonstration Schools, and Other Instructional Institutions for Non-University Students

19.5 Inactive Assignable Space

Spaces which are deemed to be available for immediate occupancy but which have not yet been assigned to individuals or groups.

19.6 Non-Institutional Agencies Occupying University Space

19.7 Instructional Service Activities to the External Community

Category 20: HEALTH SCIENCE CLINICAL FACILITIES

Definition

Space owned or operated by the university that is used in direct support of instruction, research and service for clinical health science disciplines. Includes health care areas, such as patient bedrooms and bathrooms, nurses' stations, surgery, treatment rooms, waiting rooms and service and supply areas; all measures not included in Categories 1 – 15 of the space formula and for which capital funding responsibility is assumed to be that of the Ministry of Health; all space in support of clinical instruction, research and service.

	Space Category	Space Factor		Input Measure
1	Classroom Facilities	1.23 NASM		FTE Students
2	Laboratory - Undergraduate	Group W Group X Group Y Group Z	0.8 NASM 0.6 NASM 0.5 NASM 0.3 NASM	Weekly Student Laboratory Contact Hours
3	Research Laboratory	Group A Group B Group C Group D Group E	45 NASM 30 NASM 20 NASM 10 NASM 1 NASM	FTE Faculty + 0.5 Other Research Appointments + 0.5 Graduates
4	Academic Departmental Offices	13 NASM *(plus an additional allowance of 15% for academics not included in the faculty count)*		FTE Faculty
		13 NASM		FTE Other Research Appts
		4 NASM		FTE Graduate Students
5	Campus Study Space & Library Facilities			
	Study	0.6 NASM		FTE Students
	Student Computer Rooms	0.08 NASM		FTE Undergraduate Students
	Stack (Compact Storage)	0.004 NASM		Equivalent volumes (EV) for actual % of collection in compact storage
	Stack (remainder)	0.007 NASM 0.006 NASM 0.005 NASM		EV for 0-300,000 volumes. EV for next 300,000 volumes EV for rest of collection
	Service	*0.25 x (Stack and Study)*		

Appendix B
COU Space Standards

	Space Category	Space Factor	Input Measure
6	Recreation/Athletic Space	0.9 NASM *plus -* *2,000 NASM for institutions with less than 4,000 FTE* *1,000 NASM for institutions with 4,000 to 8,000 FTE*	FTE Student
9	Plant Maintenance	*0.015 x Total NASM Inventory*	
10	Administrative Offices	13 NASM	FTE Non-Academic Staff requiring offices
	Office Services	*0.5 x Total Generated Faculty, Graduate Students and Non-Academic Staff*	
STUDENT & CENTRAL SERVICES		2 NASM	FTE Student
7	Food Service	0.5 to 0.7 NASM	FTE Student
8	Bookstore & Other. Merch. Facilities	0.1 to 2.0 NASM	FTE Student
11	Audiovisual/TV Facilities	0.05 to 0.35 NASM	FTE Student
12	Central Services	0.10 to 0.30 NASM	FTE Student
13	Health Service Facilities	0.03 to 0.05 NASM	FTE Student
14	Common Use and Student Activity Space	0.5 to 0.7 NASM	FTE Student
15	Assembly and Exhibition	0.15 to 0.4 NASM	FTE Student

Appendix C
List of Input Measures

	Space Category	Input Measure
1	Classroom Facilities	FTE Students
2	Laboratory - Instructional	Scheduled Lab. Weekly Student Contact Hours
3	Laboratory - Graduate and Faculty	FTE Faculty Other Research Appointments FTE Graduate Students
4	Academic Departmental Offices	FTE Faculty FTE Other Research Appointments FTE Graduate Students FTE Non-Academic Office Staff requiring offices
5	Campus Study Space & Library Facilities	Library Collections (Equivalent Volumes) FTE Undergraduate Students FTE Students
6	Recreation / Athletic Space	FTE Students
7	Food Service	FTE Students
8	Bookstore & Other Merchandising Facilities	FTE Students
9	Plant Maintenance	Total Net Assignable Inventory (categories 1-15 and 17-20)
10	Administrative Offices	FTE Non-Academic Office Staff
11	Audiovisual Television Facilities	FTE Students
12	Central Services	FTE Students
13	Health Service Facilities	FTE Students
14	Common Use & Student Activity Space	FTE Students
15	Assembly and Exhibition Facilities	FTE Students

Building Blocks

Series of seven COU publications that were published between 1972 and 1988. These publications led to the development of the current COU space standards.

For a list of the publications, please see Appendix F.

Ontario Ministry

Ontario Ministry refers to the Ontario Ministry responsible for postsecondary education. Until February 1993, it was called Ministry of Colleges and Universities; from February 1993 until July 1999 it was called Ministry of Education and Training, and from July 1999 to present it is called Ministry of Training, Colleges and Universities.

Gross Area

The sum of the floor areas included within the outside faces of exterior walls for all stories, or areas, which have floor surfaces.

Net Assignable Square Metres (NASM)

The amount of area that can be used by the occupants of the building.
The sum of all areas on all floors of a building assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant (except Custodial, Circulation and Mechanical area).

Actual Space

This refers to the inventory of space reported by each institution.

Space Formula / Standards

A space standard is a common measurement that may be used to establish a goal for utilization, or allocation of space.

Space Factor

A space factor is a multiplier resulting from the interaction of standards used for a particular type of space.

Input Measure

Input Measures are used in the calculation of space requirements for the first 15 of the categories, for which quantitative space factors have been determined.

Input Measures include: student enrolment, faculty, research appointments, and non-academic staff full-time equivalent positions, laboratory contact hours, and equivalent volumes in the library calculations.

Generated Space

Generated space is the space the institution should have, based on the product of the input measure and the COU space factor for each space category.

Formula Space

Usable or assignable space for which space standards could normally be developed. The formula categories provide for the full range of functions and services needed in a contemporary university. There are 15 categories of formula space: classroom, undergraduate laboratory, research laboratory, academic offices, library, athletic, food services, bookstore, plant maintenance, administrative offices, AV/TV, central services, health services, student activity space and assembly space.

Non-Assignable Space

A room or area that is not available for assignment to the occupants of a building, but that is necessary for the general occupation or mechanical support of one or a number of buildings. This space is counted on category 16. For a more detailed definition, please see Appendix A: 16.0 Non-Assignable Space.

Non-Formula Space

These are highly specialized facilities generally of a unique nature. There are four (4) categories of non-formula space, which are reported under categories 17 through 20. They are: residence, animal space, other facilities and health science clinical facilities.

Total Net Assignable Inventory

All net assignable space inventory for Categories 1-20, excluding Category 16.

FTE Students

(1) FTE Undergraduate Students

The definitions for student enrolment currently contained in the MTCU Operating Formula Manual will govern the input measures as they pertain to students.

(2) FTE Graduate Students

See definition for FTE Undergraduate Students.

Institutions Included

Federated and affiliated institutions (both Arts & Science and Theological) are included as of November 1, 1992.

Laboratory Weekly Student Contact Hour

The total weekly-student-contact-hours of laboratory instruction offered by a university as part of a program of studies leading to a degree or diploma. The contact hours are computed as the product of the course enrolment and the hours of scheduled instruction received by each enrolled student during a typical academic week.

Laboratory weekly-student-contact-hours of laboratory instruction pertains to those contact hours of courses or portions of courses in which the instructional activity is facilitated by demonstration or experimentation requiring additional equipment not ordinarily available in classrooms.

A contact hour is the time that the instructor of the course (or lab assistant) is supervising a formal laboratory session in a specialized teaching facility.

Library Collections (Equivalent Volumes)

The library materials identified in the university library catalogue are to be included.

Equivalent volumes

An equivalent volume represents one bound volume. Other library materials, including media storage units, are converted into bound volumes.

The volume equivalencies and categories of library material were reviewed and updated in consultation with the Ontario Council of Universities Libraries (OCUL) in September 1995. The categories are similar to that reported by OCUL.

For details of volume equivalencies see Appendix A (Category 5: Library Facilities and Study Space).

FTE Faculty

The university's faculty count is to include all persons, up to and including department heads or chairs, holding an academic appointment and involved in teaching, who receive remuneration via the university from all salary funding sources.

Other Research Appointments (FTE)

Only includes PDFs and anyone who has an actual appointment as a researcher who is someone truly equivalent to a faculty member but doing the research. That is, only people who actually "generate" research are included in the input measure, that is people who are originating and directing their own research, are co-investigators or are required to do their own research in order to fulfill their degree requirements. The people who are hired to assist in their research are then accommodated within the space they generate and do not generate their own space.

Research appointments located under category 20 (Health Science Clinical Facilities) are excluded.

FTE Non-Academic Office Staff

The full-time equivalent of all filled established positions for *secretarial, clerical, professional and management staff* with appointments of at least three months' duration as of 1 October. This will include non-academic office staff in teaching and research units, central computing and data processing, physical planning and plant operations, student services, academic services and administration, not included in other categories.

Rae Review

"The government has identified "Strong People, Strong Economy" as one of the three key priority areas in which it is committed to achieving significant results for Ontario. An excellent postsecondary education system, which provides opportunity for the people of Ontario and has a secure future, is essential for a competitive and prosperous society. In recognition of this, the government announced a review of the design and funding of postsecondary education in the Ontario Budget 2004."
"Premier McGuinty appointed the Honourable Bob Rae as Advisor to the Premier and the Minister of Training, Colleges and Universities. With the support of a seven-member Advisory Panel, Mr. Rae was asked to advise on strategies to improve higher education…."

SuperBuild

In the 1999 provincial budget, the government announced the creation of SuperBuild, the largest capital investment in Ontario's postsecondary sector in more than 30 years, to help colleges and universities construct new academic buildings and upgrade existing teaching facilities to accommodate the growing number of students.

Inventory / Generated (I/G)

The ratio of actual inventory (I) and the inventory generated by COU space factors (G).

Double Cohort

In the academic year 1998-99 the provincial government announced the elimination of Grade 13, resulting in two cohorts (double cohort) of secondary school students (graduates of the old five-year and new four-year curriculum) both seeking university admission at the same time, with a peak effect on university enrolments between 2001-02 and 2004-05.

Appendix E
Program Classification Scheme

COU space standards make use of program or discipline groups in the generation of instructional labs and research space.

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
1.00	EDUCATION		
1.18	Elementary/Secondary Teacher Training	Y	E
1.23	Higher Education, Postsecondary Teacher Training	Y	E
1.36	Kindergarten, Pre-School Teacher Training	Y	E
1.38	Non-Teaching Fields	Y	E
1.39	Physical Education	Y	D
1.40	Kinesiology, Human Kinetics & Kinanthropology (Arts)	Y	D
1.40	Kinesiology, Human Kinetics & Kinanthropology (Science)	Y	**C**
1.41	Recreation	Y	E
1.99	Other, not elsewhere specified	Y	E
2.00	FINE AND APPLIED ARTS		
2.03	Fine Art	X	D
2.03	Visual Arts / Art Conservation		C
2.05	Music	X	E
2.08	Other Performing Arts	X	E
2.14	Applied Arts (eg. Industrial Design, Design)	X	E
2.99	Other, not elsewhere specified	X	E
3.00	HUMANITIES AND RELATED		
3.03	Classics, Classical and Dead Languages	Z	E
3.05	English Language and/or Literature	Z	E
3.06	French Language and/or Literature	Z	E
3.09	History	Z	E
3.10	Journalism	Z	E
3.11	Languages and/or Literatures, Other	Z	E
3.12	Library Science	Z	E
3.13	Other Records Science	Z	D
3.14	Linguistics	Z	E
3.17	Other Mass Communication Studies	Z	E
3.21	Philosophy	Z	E
3.24	Religious Studies	Z	E
3.25	Theological Studies	Z	E
3.27	Translation and Interpretation	Z	E
3.99	Other, not elsewhere specified	Z	E

** Changes to category groupings in bold.

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
4.00	SOCIAL SCIENCES AND RELATED		
4.03	Anthropology	Y	C
4.06	Archaeology	Y	D
4.08	Canadian Studies	Z	E
4.09	Area Studies, Other	Z	E
4.12	Commerce, Management, Business Administration	Z	E
4.13	Criminology	Z	E
4.14	Specialized Administration Studies	Z	E
4.15	Demography	Y	D
4.27	Economics	Z	E
4.30	Geography	Y	D
	Physical Geography	Y	C
	Human Geography	Y	D
4.33	Law and Jurisprudence	Z	E
4.40	**Environmental Studies - Human**	**Y**	**E**
	Environmental Science – Physical	**Y**	**D**
4.43	Political Science	Z	E
4.46	Psychology	Y	B
4.47	Secretarial Studies	Z	E
4.49	Social Work and Social Welfare	Z	E
4.52	Sociology	Z	E
4.55	Military Studies	Z	E
4.57	Other Social Services	Z	E
4.99	Other, not elsewhere specified	Z	E
5.00	AGRICULTURAL AND BIOLOGICAL SCIENCES		
5.03	Agriculture (Animal, Plant, Soil Science)	W	A
5.06	Biochemistry	X	A
5.09	Biology	X	A
5.12	Biophysics	X	A
5.15	Botany	X	A
5.16	Fisheries and Wildlife Management	X	A
5.18	Household Science and Related (Food Sci & Nutrition)	Y	C
5.21	Veterinary Medicine	W	A
5.22	Veterinary Sciences	W	A
5.23	Veterinary Medicine Specialties	W	A
5.24	Zoology	X	A
5.99	Other, not elsewhere specified	X	A

** Changes to category groupings in bold.

Appendix E
Program Classification Scheme

Code	Program/Discipline	Category 2 Group W - Z	Category 3 Group A - E
6.00	ENGINEERING AND APPLIED SCIENCES		
6.03	Architecture	X	E
6.05	Aeronautical and Aerospace Engineering	W	B
6.06	Chemical Engineering	W	**B**
6.07	Civil Engineering	W	B
6.08	Design, Systems Engineering	X	**D**
6.09	Electrical Engineering	X	C
6.10	Industrial Engineering	W	B
6.11	Mining Engineering	W	**A**
6.12	Mechanical Engineering	W	B
6.13	Metallurgical Engineering	W	B
6.14	Other Engineering	W	**C**
6.15	Engineering Science	X	B
6.16	Engineering General	W	B
6.20	Forestry	X	B
6.22	Landscape Architecture	X	E
6.99	Other, not elsewhere specified	W	B
7.00	HEALTH PROFESSIONS AND OCCUPATIONS		
7.03	Dentistry (Professional)	X	A
7.04	Dental Specialties	X	A
7.05	Medicine (Professional)	X	A
7.06	Basic Medical Sciences (Anatomy, Biochemistry, Physiology, Genetics, Biophysics, etc.)	X	A
7.08	Medical Specialties	X	A
7.10	Paraclinical Sci (Microbiology, Immunology, Pathology)*	X	A
7.12	Surgical Specialties	X	A
7.15	Nursing	Z	E
7.18	Optometry	X	A
7.21	Pharmacy	X	B
7.24	Epidemiology and Public Health	X	D
7.27	Rehabilitation Medicine		
	- Audio-Speech Therapy, Commun Disorders	X	B
	- Occ., Rehab, Physical Therapy, App Health Sci.	X	D
7.36	Medical Technology	X	B
7.99	Other, not elsewhere specified	X	A
8.00	MATHEMATICS AND PHYSICAL SCIENCES		
8.06	Computer Science	Z	D
8.12	Mathematics	Z	E
8.15	Chemistry	X	A
8.18	Geology and Related	X	A
8.21	Metallurgy, Materials Science	W	B
8.24	Meteorology	X	A
8.27	Oceanography and Water Studies	X	A
8.30	Physics (e.g. Astronomy, Aerospace Sciences)	X	A
8.99	Other, not elsewhere specified	X	A

* Do not report corresponding inventory. See category 20.

** Changes to category groupings in bold.

Revised: 2005 10

Appendix F
Calendar of Pertinent Information / Publications

1964-1969	Ontario universities received capital monies through a project approval procedure.
Oct. 2, 1967	Joint Capital Studies Committee began work to develop a capital formula to incorporate many of the features sought in the operating grants formula: objectivity and equity, consistent standards, the opportunity for the provincial government to exert a primary control over its total obligation, and an incentive for each institution to allocate and manage its resources.
Dec. 1967	A contract was awarded to Taylor, Lieberfeld and Heldman to do a physical inventory and utilization study of all Ontario universities.
1968-1969	Interim capital formula was derived. Committee on University Affairs stated that the province was entering an era when capital resources would become scarcer.
Aug. 1970	COU published a draft report with comments and guidelines on space standards that might be incorporated in a space formula.
July 1971	The Committee on Capital Financing, with the approval of COU, opted to take action in the development of a proposal for a capital formula. Four Task Forces were established: Task Force - Space and Utilization: This Task Force was asked to prepare a space and utilization guide for the submission to the COU Committee on Capital Financing with a view to the guide being incorporated with appropriate cost data in a capital funds allocation system. Membership consisted of five universities: Brock, Carleton, Guelph, McMaster and Queen's.
1972	**Published: Building Blocks: Background Studies on the Development of a Capital Formula for Ontario. Volume 1: Report of the Task Force-Space and Utilization. 1972. (# 72-9)** **Published: Building Blocks: Volume II: Report of the Task Force-Space for Education. July 1972. (#72-11)** Task Force – Health Sciences (Capital) **Published: Building Blocks: Volume III: Report of the Task Force-Space for Health Sciences. Nov 1972. (#72-10)** Task Force - Building Costs: This Task Force was to study and comment on the past costs and quality of university construction and to provide appropriate cost multipliers. **Published: Building Blocks: Volume IV: Report of the Task Force-Building Costs. July 1972. (#72-12)** **Published: Building Blocks: Supplement to Volume IV: Elemental Cost Analysis and Performance and Statistical Data - tables. 1972. (#72-12S)**

Spring 1972 Summary Report, Ontario Universities Physical Resources Study (TLH) Report to the Joint Sub-Committee on Capital Studies of the Committee of Presidents of the Universities of Ontario and the Committee on University Affairs.

1972 Interim Capital Funding Formula was cancelled.

Nov. 1972 Committee of Capital Financing established a Standing Sub-Committee to continue the work begun by the task forces, particularly with respect to recommendations in ***Building Blocks, Volumes 1, 2 and 3***.

Nov. 1973 Phase II of the building cost study resulted in:
Published: Building Blocks: Volume V: Report of the Task Force-Building Life Costs. 1974 (#74-1)

April 1974 Stemming from recommendations in **Building Blocks, Volume 5**, COU agenda included a Proposal for the Establishment of a Reporting System for Annual Costs of Operating and Maintaining Ontario University Buildings.

Dec. 1978 Report of the Standing Sub-Committee to the Committee on Capital Financing concerning revisions to Building Blocks
Published: Building Blocks: Volume VI: Report of the Subcommittee-Revisions to Building Blocks (#78-12).
This report presents in a single volume the most recent recommendations previously contained in ***Volumes 1, 2 and 3*** of ***Building Blocks***. The first triennial survey is also reported.

Highlights:

- Ten input measures were reduced to five: FTE undergraduates, FTE graduates, FTE faculty, Lab contact hours, and Library volumes.
- All ***14 (fourteen)*** universities were included in the survey rather than just the original five.
- Separate sub-categories for *Instructional Office* were introduced.
- Variable space factors for *Laboratories* were adopted to reflect the needs of different disciplines.

July 1981 **Published: Inventory of Physical Facilities of Ontario Universities. 1980-81 (#81-7)**

July 1984 **Published: Inventory of Physical Facilities of Ontario Universities. 1983-84 (#84-5)**

Dec. 1984 Task Force to Review COU Space Standards was struck.

1986-1987	The COU space formula began to be used directly for the allocation of provincial funds. The Ontario Ministry of Training, Colleges and Universities (MTCU) now uses space entitlement as generated by the formula to determine the allocation of repair and renovation funds under the Facilities Renewal Program.
Nov. 1987	The COU Standing Committee on Space Standards and Reporting was established. Future consideration was to be given to the question of eligibility of federated and affiliated institutions for capital funding.
Jan. 1988	**Published: Building Blocks: Volume VII: The Final Report of the Task Force to Review COU Space Standards. 1986-87 triennial survey published (#88-1).** Highlights: - Space factors were converted to metric units. - Five input measures were increased to eight: added FTE non-faculty research appointments; FTE non-academic office staff; and total assignable space. - Instructional labs: some changes were made to the discipline groups. - Research: non-faculty researchers weighted at 50%; discipline group changes. - Office: non-academic office staff included as a new input measure. - Plant Maintenance appears as a separate category. - Changes to formula for Library and Athletics.
1988	The Committee on Space Standards and Reporting was created. It replaced the Task Force on COU Space Standards.
Feb. 1990	A Background Paper Prepared for the Joint Working Group: University Space Standards in North America.
Feb. 1990	Report of the Joint Working Group on University Space Utilization: Classroom Space Utilization in Ontario Universities, 1988-89. The review of classroom space and its utilization was carried out to satisfy a concern expressed by the "Ontario Ministry" that classrooms were underutilized and that the COU space guidelines were too generous. Data from a sample of Ontario universities showed that the universities were meeting or exceeding the hours of use per week and percentage of seats occupied in the classroom space factor, and the average area for the different furniture types currently in use was also consistent with the assumption in the formula. The survey also showed that extensive use during the evening was occurring in many institutions.
Jan. 1991	**Published: Inventory of Physical Facilities of Ontario Universities, 1989-90 (#91-1)**
March 1991	Federated and affiliated colleges to be included in the triennial survey.

1992	**Published: COU Building Blocks-Users Guide (first edition)**
Dec. 1993	**Published: Inventory of Physical Facilities of Ontario Universities, 1992-93 (#93-5)**
July 1997	**Published: Inventory of Physical Facilities of Ontario Universities, 1995-96 (#330)**
April 2000	**Published: Inventory of Physical Facilities of Ontario Universities, 1998-99 (#670)**
Jan. 2003	**Published: Inventory of Physical Facilities of Ontario Universities, 2001-02 (#734)**